



FIG. 1

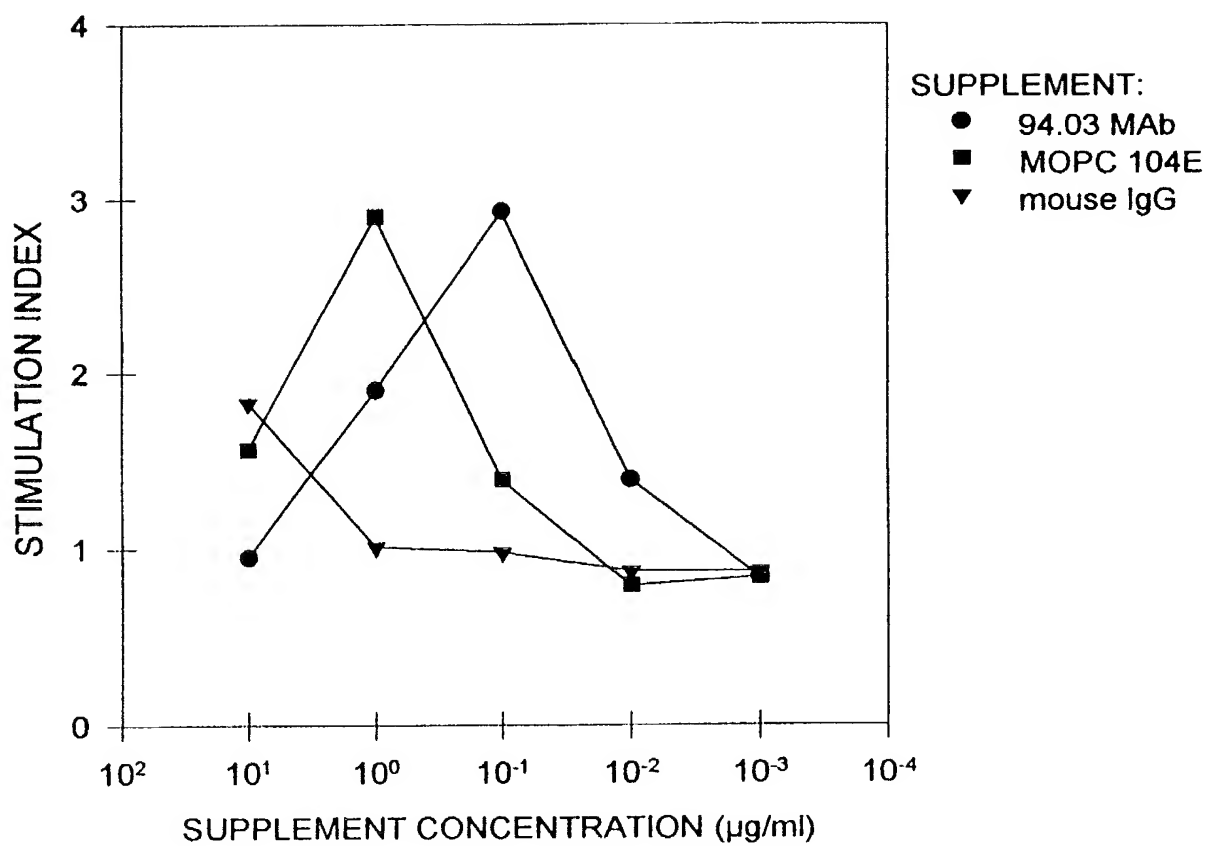




FIG. 2

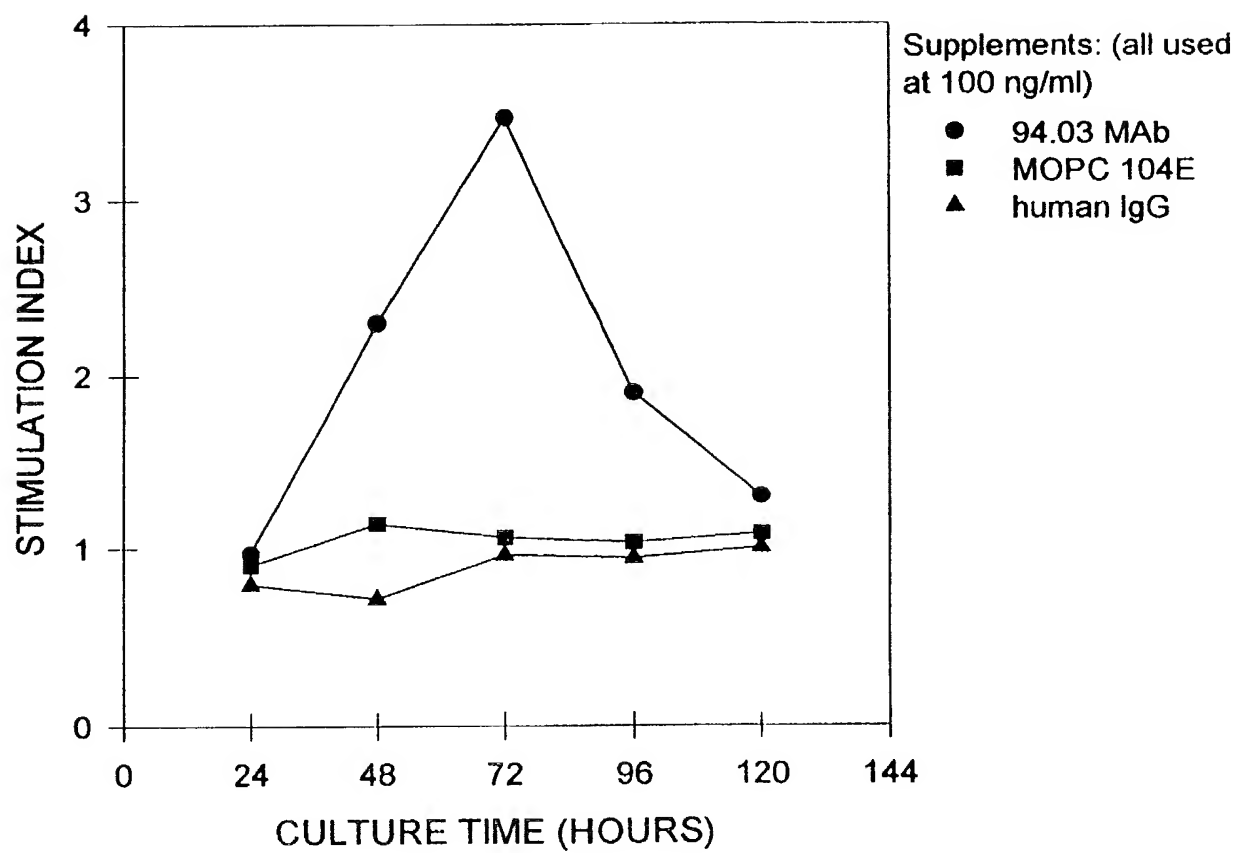


FIG. 3A



FIG. 3B

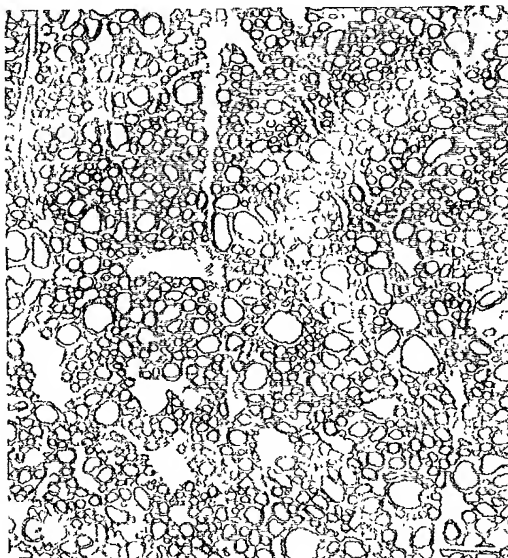


FIG. 3C

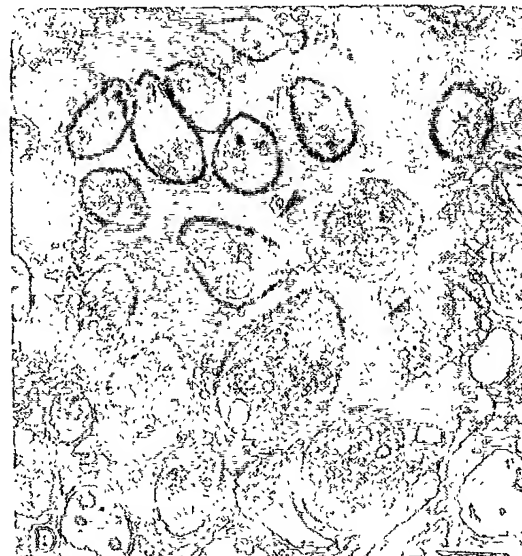


FIG. 3D



FIG. 5

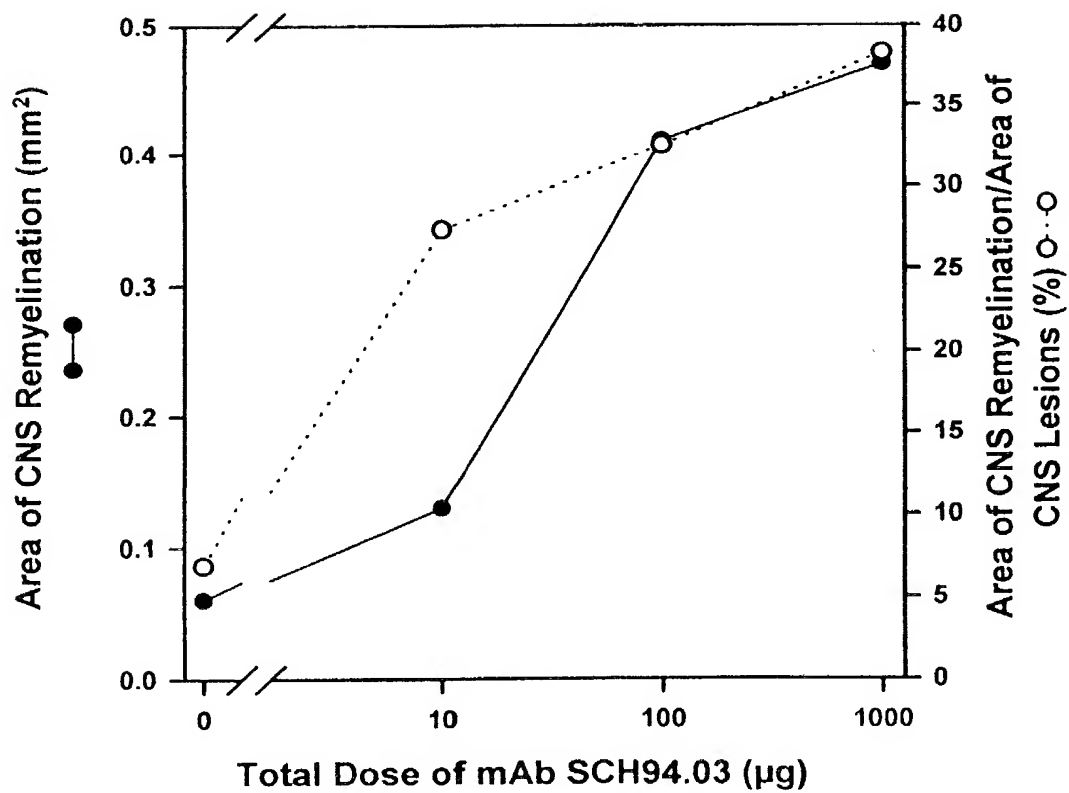


FIG. 6

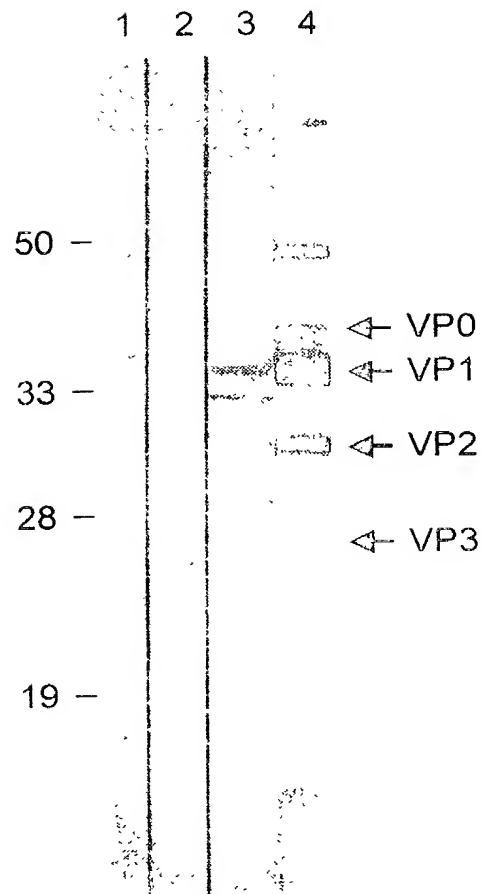


FIG. 7A

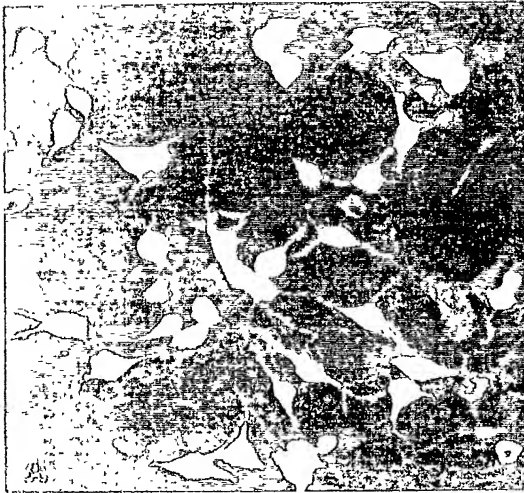


FIG. 7B

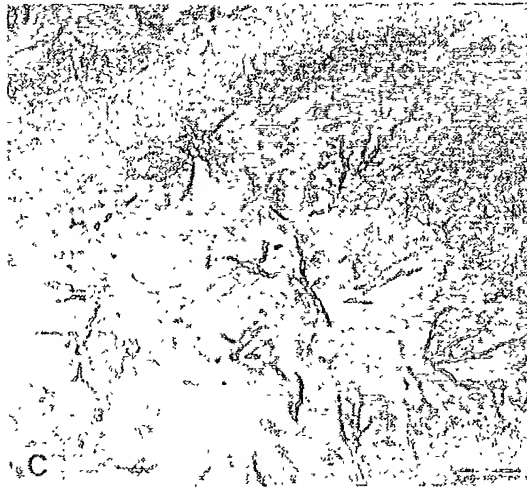
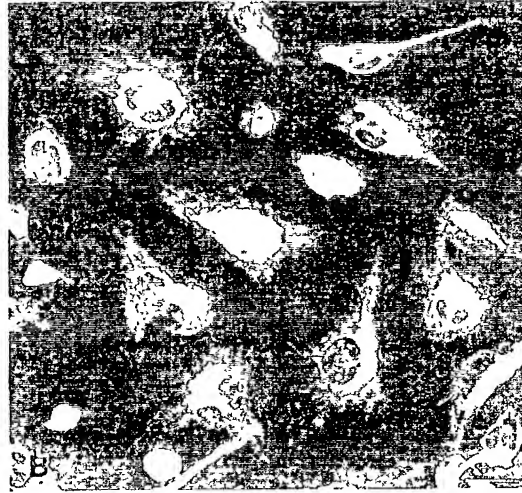


FIG. 7C



FIG. 7D



FIG. 9

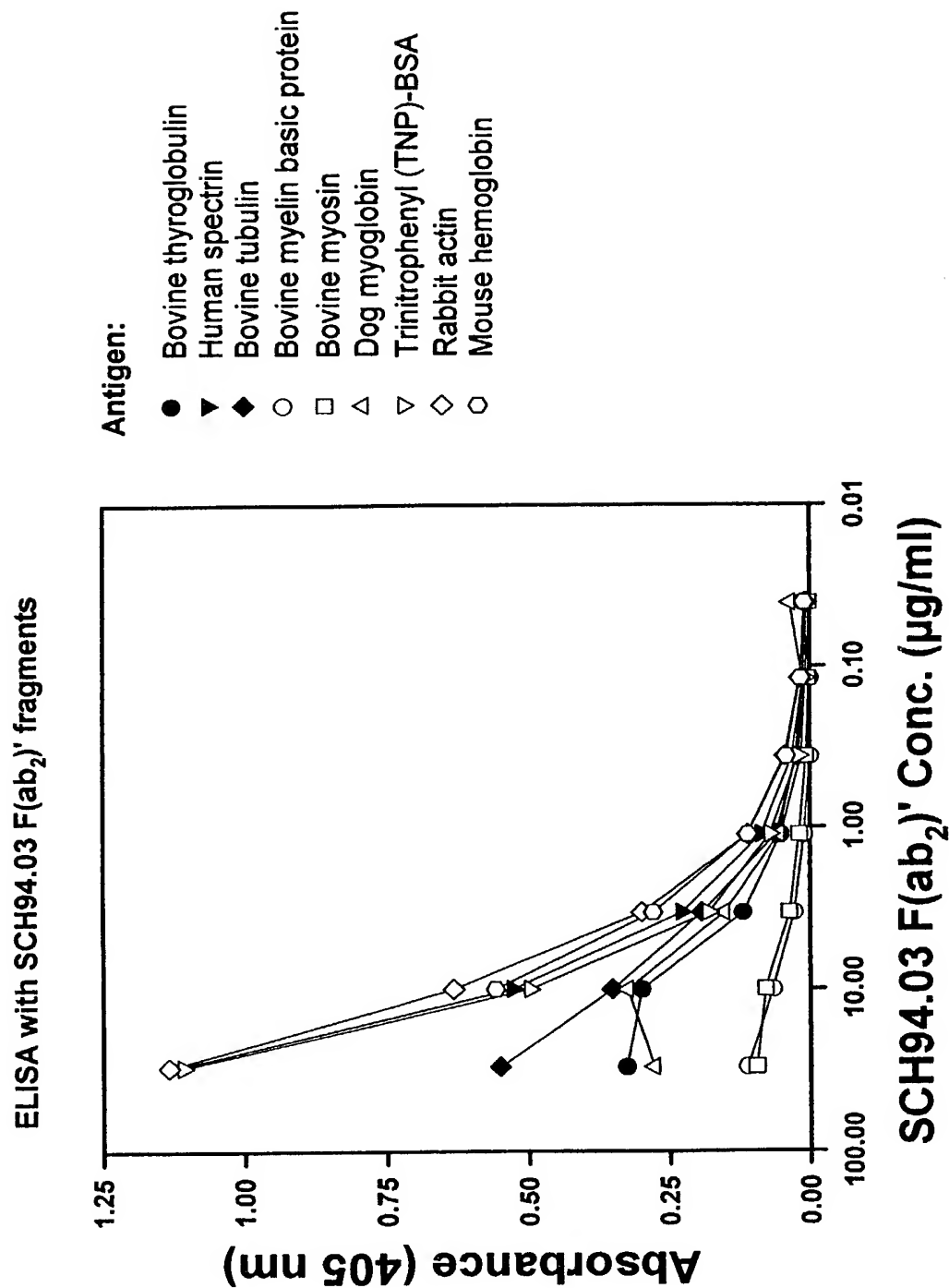


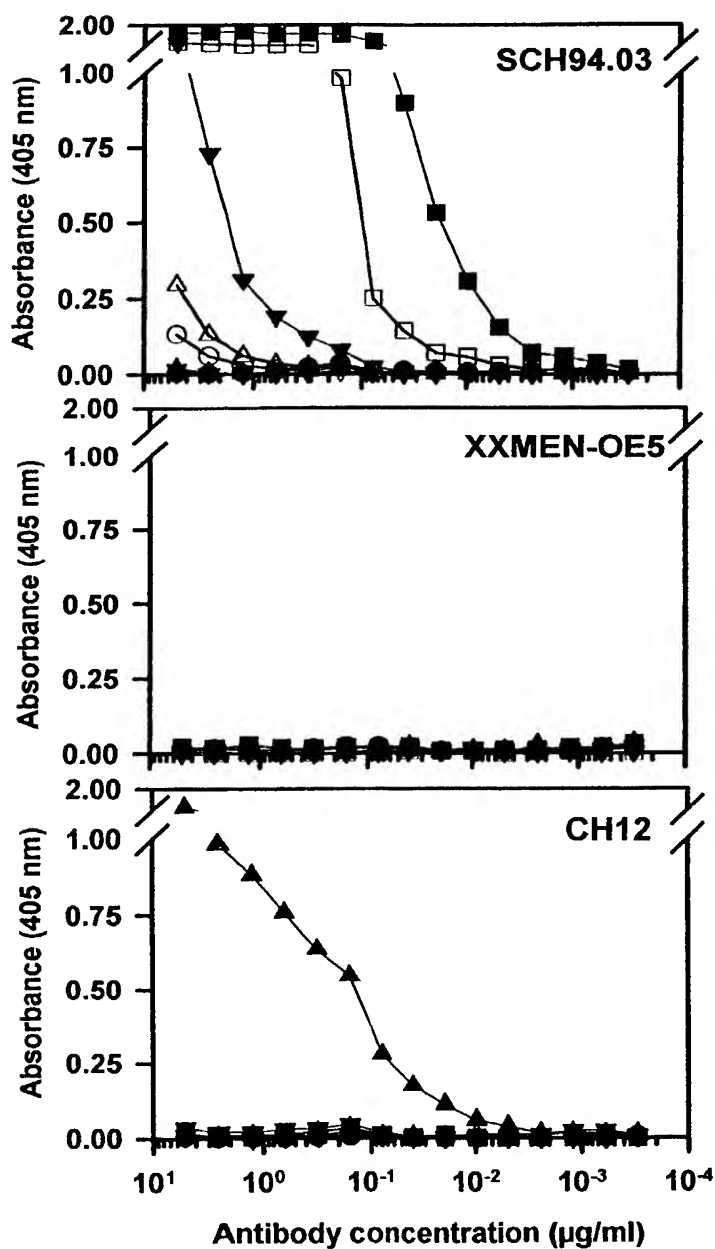


FIG. 10A

FIG. 10B

FIG. 10C

Chemical hapten ELISA with SCH94.03



Hapten:

- none
- FL
- ▲ TMA
- ▼ PhOx
- Ars
- NP
- △ TNP
- ▽ PC

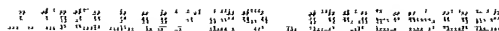


FIG. 11B

	-9												1														
19	M	G	W	S	C	I	I	L	F	L	V	A	A	A	T	G	V	H	S	Q	V	Q	L	Q	Q	P	G
20	ATG	GGA	TGG	AGC	TGT	ATC	ATC	CTC	TTT	TTG	GTA	GCA	GCT	ACA	GGT	GTC	CAC	TCC	CAG	CAG	GTC	CAA	CTG	CAG	CAG	CCT	GGG

germline V23

10			20			30																				
T	E	L	V	K	P	G	A	S	V	K	L	S	C	K	A	S	G	Y	T	F	T	S	Y	W	M	H
ACT	GAA	CTG	GTG	AAG	CCT	GGG	GCT	TCA	GTG	AAG	CTG	TCC	TGC	AAG	GCT	TCT	GGC	TAC	ACC	TTC	ACC	AGC	TAC	TGG	ATG	CAC

germline V23

[illegible]

germline V23

	70										80										82A										82B										82C												
K	F	K	S	K	A	T	L	T	V	D	K	S	S	S	T	A	Y	M	Q	L	S	S	L	T	S	E	K	F	K	S	K	A	T	L	T	V	D	K	S	S	S	T	A	Y	M	Q	L	S	S	L	T	S	E
AAAG	TTC	AAG	AGC	AAG	GCC	ACA	CTG	ACT	GTA	GAC	AAA	TCC	TCC	AGC	ACA	GCC	TAC	ATG	CAG	CTC	AGC	AGC	CTG	ACA	TCT	GAG	AAAG	TTC	AAG	AGC	AAG	GCC	ACA	CTG	ACT	GTA	GAC	AAA	TCC	TCC	AGC	ACA	GCC	TAC	ATG	CAG	CTC	AGC	AGC	CTG	ACA	TCT	GAG

germline V23

[illegible]

CH12
germline V23
JH2

[illegible]germline J_H2



FIG. 12

Leader Peptide

-19 M G W R W I F L F L L L S G T A G G V H C Q Q L Q Q S G P
ATG GGA TGG AGA TGG ATC TTT CTT TTC CTC CTG TCA GGA ACT GCA GGT GTC CAT TGC CAG GTT CAG CTG CAG CAG TCT GGA CCT

A1/A4
O1

CDR1

10 E L V K P G A L V K I S C K A S G Y T F T S Y D I N W V
GAG CTG GTG AAG CCT GGG GCT TTA GTG AAG ATA TCC TGC AAG GCT TCT TCT GGT TAC ACC TTC ACA AGC TAC GAT ATA AAC TGG GTG

A1/A4
O1

CDR2

40 K Q R P G Q G G L E W I G W I G W I Y P G D G S T K Y N E K F K
AAG CAG AGG CCT GGA CAG GGA CTT GAG TGG ATT TAT CTT GGA GAT GGT AGT ACT AAG TAC AAT GAG AAA TTC AAG

A1/A4
O1

CDR2

70 G K A T L T A D K S S S S T A Y M Q L S S L T S E N S A V
GGC AAG GCC ACA CTG ACT GCA GAC AAA TCC TCC AGC ACA GCC TAC ATG CAG CTC AGC AGC AGC CTG ACT TCT GAG AAC TCT GCA GTG

A1/A4
O1

CDR3

J region

C region

90 Y F C A R G A R F Y W Y F 100 100A 100B
TAT TTC TGT GCA AGA TAC TGG TAC TTC GAT GTC TGG GGC GCA GGG ACC ACG GTC ACC GTT TCC TCA GAG AGT
GGG GCC AGG TTC

A1/A4
germline JH1
O1



FIG. 13

Leader Peptide

	-19	M	A	V	L	G	L	L	F	C	L	V	T	F	P	S	C	-4	V	L	S	Q	V	Q	L	K	Q	S	G	P
mline VH101	ATG	GCT	GTC	TTA	GGG	CTG	CTC	CTC	ITC	TGC	CTA	GTG	ACA	TTT	CCA	AGC	GGT	CTC	GTG	CTA	TCC	CAG	GTG	CAG	CTG	AAG	CAG	TCA	GGA	CCT
NK-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	10	G	L	V	Q	P	S	Q	S	L	S	I	T	C	T	V	S	G	F	TTC	TTA	ACT	T	S	Y	G	V	H	W	GTT
mline VH101	GGC	CTA	GTG	GTG	CAG	CCC	TCA	CAG	AGC	CTG	TCC	ATC	ACC	TGC	ACA	GTG	TCT	GGT	TTT	TTT	---	---	---	---	---	---	---	---	---	---
NK-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	40	R	Q	S	P	G	G	K	G	L	E	W	L	G	V	I	W	S	G	G	S	T	D	Y	N	A	A	G	T	T	C
mline VH101	CGC	CAG	TCT	CCA	GGG	AGA	AAG	GGT	CTG	GAG	TGG	CTG	GGA	GTG	ATA	TGG	AGT	GGT	GGG	AGC	ACA	GAC	GAC	TAT	AAT	GCA	GCT	TTC	ATA	TCC	---
NK-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	70	R	L	S	I	S	K	D	N	S	K	S	Q	V	F	F	TTC	TTT	AAA	ATG	AAC	AGT	CTG	CAA	TCT	AAT	GAC	ACA	GOC	ATA	TAT
mline VH101	AGA	CTG	AGC	ATC	AGC	AAG	GAC	AAT	TCC	AAG	AGC	CAA	GTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT
NK-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	90	R	L	S	I	S	K	D	N	S	K	S	Q	V	F	F	TTC	TTT	AAA	ATG	AAC	AGT	CTG	CAA	TCT	AAT	GAC	ACA	GOC	ATA	TAT
mline VH101	AGA	CTG	AGC	ATC	AGC	AAG	GAC	AAT	TCC	AAG	AGC	CAA	GTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT
NK-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	100	Y	C	A	R	TAC	TGT	GCC	AGA
mline VH101	---	---	---	---	---	---	---	---	---
mline JH4	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---

	100	D	C	G	S	R	G
NK-1	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---



FIG. 14

Leader Peptide

germline V1
A2B5

-19	K	L	W	L	N	W	V	F	L	L	L	H	G	-4	I	Q	C	E	+1	V	K	L	V	E	S	G	G
M	AAG	TTG	TGG	TGA	AAC	TGG	GTT	TTT	CTT	TTA	ACA	CTT	TTA	CAT	ATC	CAG	TGT	GAG	GTG	AAG	CTG	GTG	GAA	TCT	GGA	GGA	
ATG	AAG	TTG	TGG	TGA	AAC	TGG	GTT	TTT	CTT	TTA	ACA	CTT	TTA	CAT	ATC	CAG	TGT	GAG	GTG	AAG	CTG	GTG	GAA	TCT	GGA	GGA	

CDR1

germline V1
A2B5

10	L	V	Q	P	G	G	S	L	R	L	S	C	A	T	S	G	F	T	F	S	D	F	Y	M	E	W	V
G	TTG	GTA	CAG	CCT	GGG	GGT	TCT	CTG	AGA	CTC	TCC	TGT	GCA	ACT	TCT	GGG	TTT	ACC	TTT	AGT	GAT	TTC	TAC	ATG	GAG	TGG	GTC
GGC	TTG	GTA	CAG	CCT	GGG	GGT	TCT	CTG	AGA	CTC	TCC	TGT	GCA	ACT	TCT	GGG	TTT	ACC	TTT	AGT	GAT	TTC	TAC	ATG	GAG	TGG	GTC

CDR2

germline V1
A2B5

40	Q	P	P	G	K	R	L	E	W	I	A	S	R	N	K	A	N	D	Y	T	T	E	Y	S	A	S	
R	Q	P	P	G	K	R	L	E	W	I	A	S	R	N	K	A	N	D	Y	T	T	E	Y	S	A	S	
CGC	CAG	CCT	CCA	GGG	AAG	AGA	CTG	GAG	TGG	ATT	GCT	GCA	AGT	AGA	AAC	AAA	GCT	AAT	GAT	TAT	ACA	ACA	GAG	TAC	AGT	GCA	TCT

CDR2

germline V1
A2B5

70	K	G	R	F	I	V	S	R	D	T	S	Q	S	I	L	Y	L	Q	M	N	A	L	R	A	E	D	T
V	K	G	R	F	I	V	S	R	D	T	S	Q	S	I	L	Y	L	Q	M	N	A	L	R	A	E	D	T
GTG	AAG	GGT	CGG	TTT	ATC	GTC	TCC	AGA	GAC	ACT	TCC	CAA	AGC	ATC	CTC	TAC	CTT	CAG	ATG	AAT	GCC	CTG	AGA	GCT	GAG	GAC	ACT

CDR3

J region

germline V1
germline JH3
A2B5

90	I	Y	TAT	TAC	TGT	GCA	AGA	GAT	GCA	C	Q	L	G	L	P	A	W	F	A	Y	W	G	Q	G	T	L	V	T
A	I	Y	TAT	TAC	TGT	GCA	AGA	GAT	GCA	C	Q	L	G	L	P	A	W	F	A	Y	W	G	Q	G	T	L	V	T
GCC	ATT	TAT	TAC	TGT	GCA	AGA	GAT	GCA	C																			

J region

germline JH3
A2B5

V	S	A
GTC	TCT	GCA

FIG. 15



Leader Peptide																													
MOPC21 01/04 E7	-19	M	E	S	Q	T	L	V	F	I	S	I	L	L	W	L	Y	G	A	D	G	N	I	V	M	T	Q	S	P
		ATG	GAA	TCA	CAG	ACT	CTG	GTC	TTC	ATA	TCC	ATA	CTG	CTC	TGG	TTA	TAT	GGA	GCT	GAT	GGG	AAC	ATT	GTA	ATG	ACC	CAA	TCT	CCC
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MOPC21 01/04 E7	10	K	S	M	S	M	S	V	G	E	R	V	T	L	T	C	K	A	S	E	N	V	V	T	Y	V	S	W	Y
		AAA	TCC	ATG	TCC	ATG	TCA	GTA	GGA	GAG	AGG	GTC	ACC	TTG	ACC	TGC	AAG	GCC	AGT	GAG	AAT	GTG	GTG	ACT	TAT	GTT	TCN	TGG	TAT
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MOPC21 01/04 E7	40	Q	Q	K	P	E	Q	S	P	K	L	L	I	Y	G	A	S	N	R	Y	T	G	V	P	D	R	F	T	G
		CAA	CAG	AAA	CCA	GAG	CAG	TCT	CCT	AAA	CTG	CTG	ATA	TAT	GGG	GCA	TCC	AAC	CGG	TAC	ACT	GGG	GTC	OCN	GAT	CGC	TTC	ACA	GGC
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MOPC21 01/04 E7	70	S	G	S	A	T	D	F	T	L	T	I	S	S	V	Q	A	E	D	L	A	D	Y	H	C	G	Q	G	Y
		AGT	GGA	TCT	GCA	ACA	GAT	TTC	ACT	CTG	ACC	ATC	AGC	AGT	GTG	CAG	GCT	GAA	GAC	CTT	GCA	GAT	TAT	CAC	TGT	GGA	CAG	GGT	TAC
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MOPC21 01/04 E7	100	S	Y	P	Y	T	F	G	G	G	T	K	L	E	I	K	R	CGG	GCT	GAT	GCT	TCA							
		AGC	TAT	CCG	TAC	ACG	TTC	GGA	GGG	GGG	ACC	AAG	CTG	GAA	ATA	AAA	CGG	GCT	GAT	GCT	TCA								
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Patent & Trademark Office



FIG. 16

Leader Peptide

[illegible]



FIG. 17

Leader Peptide																	
		-4				+1											
B5	M	E	S	Q	I	Q	V	F	V	F	V	L	S	G	D	G	H
	ATG	GAG	TCA	CAG	ATT	CAG	GTC	TTT	GTA	TTC	GTG	TTT	CTC	TGG	TTG	TCT	CAC
		CDR1															
B5	K	F	M	S	T	S	V	G	D	R	V	S	I	T	C	K	Y
	AAA	TTC	ATG	TCC	ACT	TCA	GTA	GGA	GAC	AGG	GTC	AGC	ATC	ACC	TGC	AAG	TAT
		CDR2															
B5	Q	Q	K	P	G	Q	S	P	CCT	AAA	CTA	CTG	ATT	TAC	TGC	GCA	G
	CAA	CAG	AAA	CCA	GGA	CAA	TCT	CCT	CAA	AAA	CTA	CTG	ATT	TAC	TGC	GCA	GGC
		CDR3															
B5	S	G	S	G	T	D	F	T	T	F	T	I	S	S	V	Q	Y
	AGT	GGA	TCT	GGG	ACG	GAT	TTC	ACT	TTC	ACC	ATC	AGC	AGT	AGT	GTG	CAG	TAT
		CDR3															
		J region				C region											
B5	T	T	P	L	T	F	G	A	G	T	K	L	E	L	K	R	
	ACT	ACT	CCG	CTC	ACG	TTC	GGT	GCT	GGG	ACC	AAG	CTG	GAG	CTG	AAA	CGG	TCA

mline Jx5
B5



FIG. 18

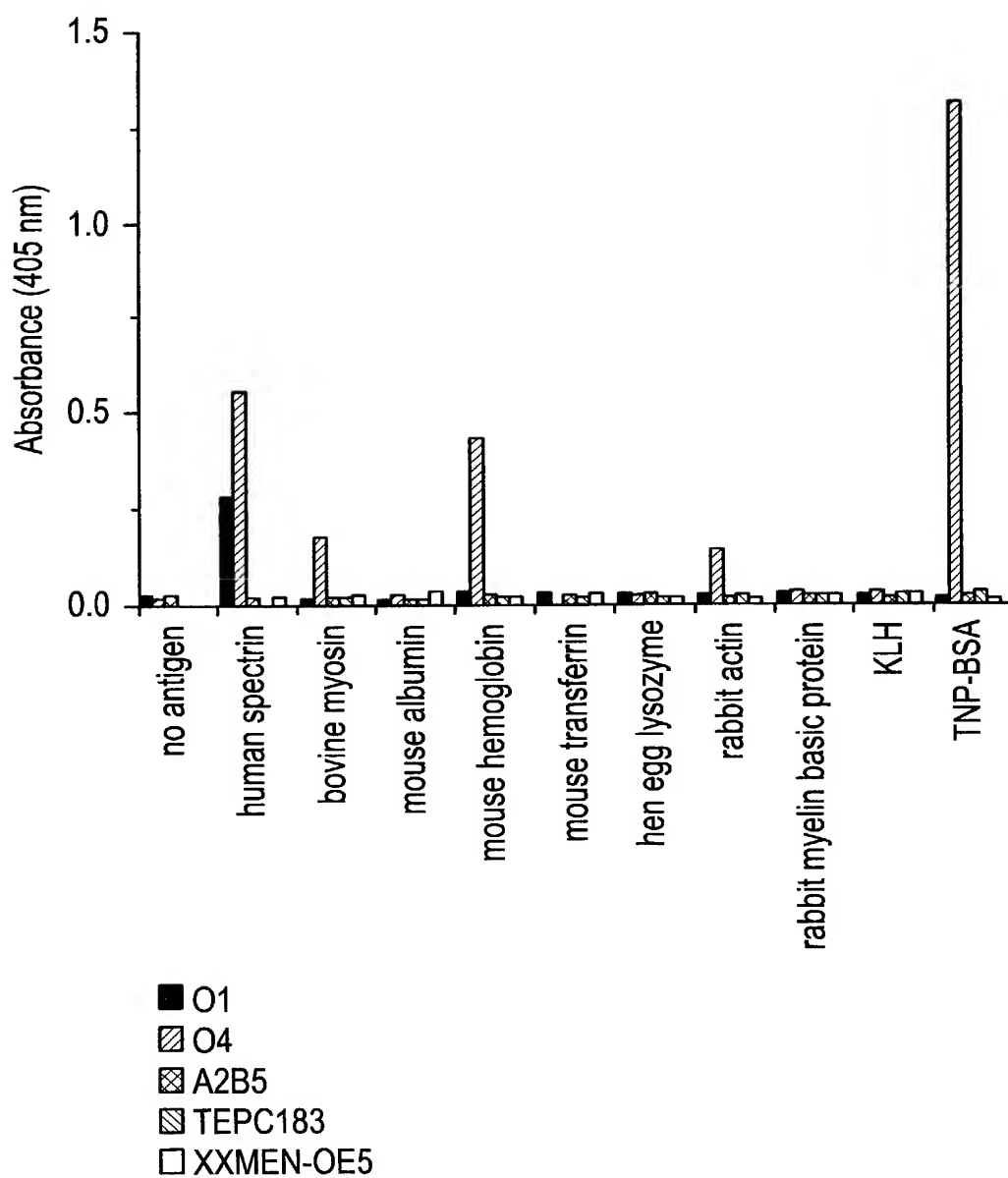


FIG. 19A

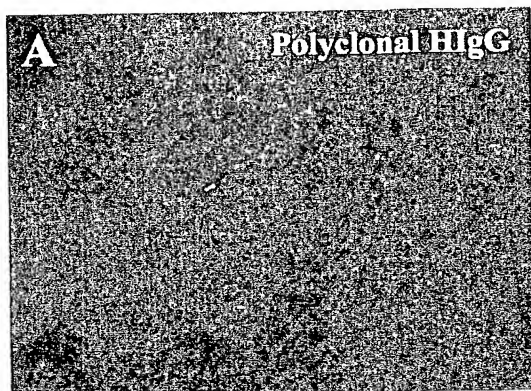


FIG. 19B

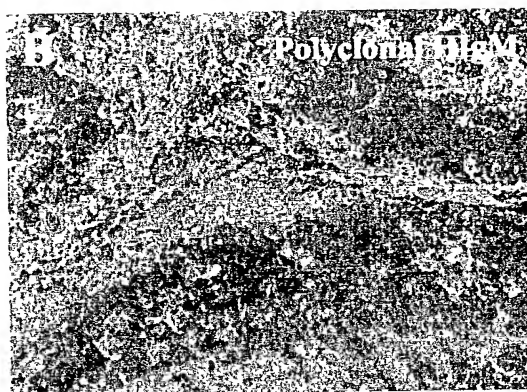


FIG. 19C

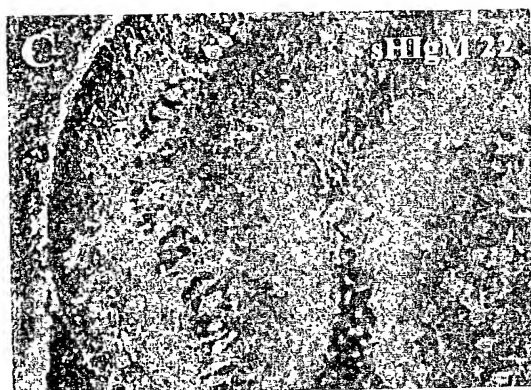


FIG. 19D

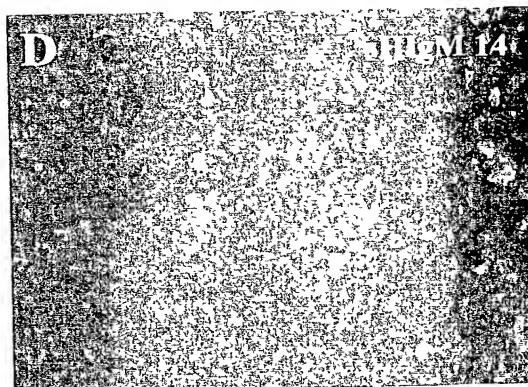


FIG. 19E

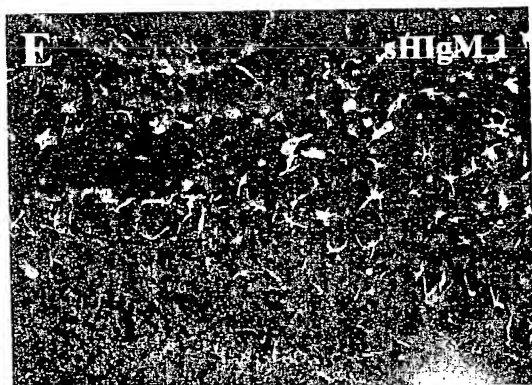


FIG. 19F

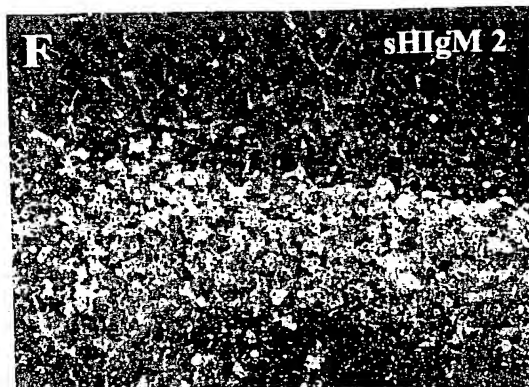


FIG. 20A

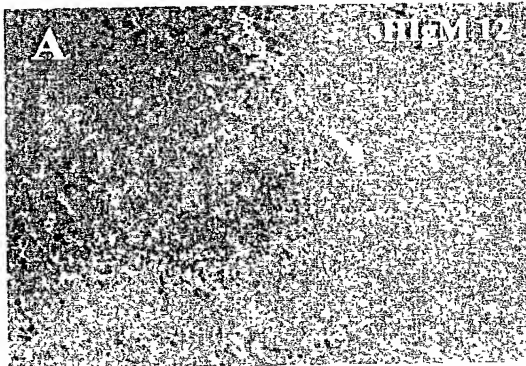


FIG. 20B

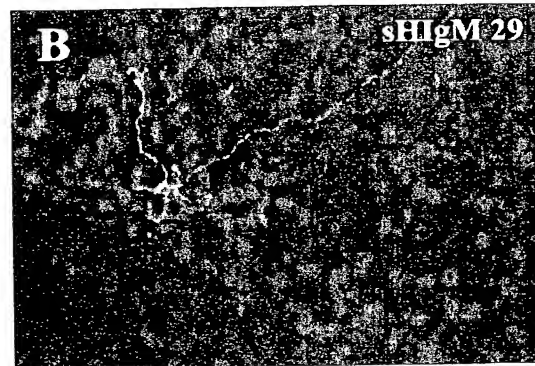


FIG. 20C



FIG. 20D

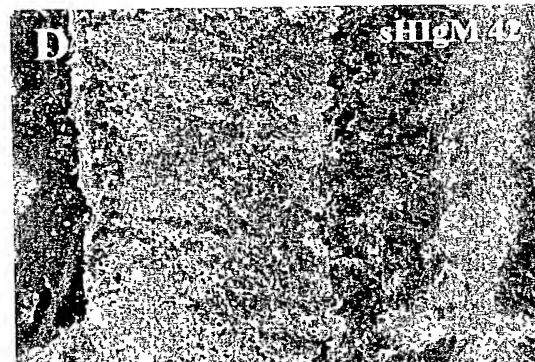


FIG. 20E



FIG. 20F



FIG. 21A

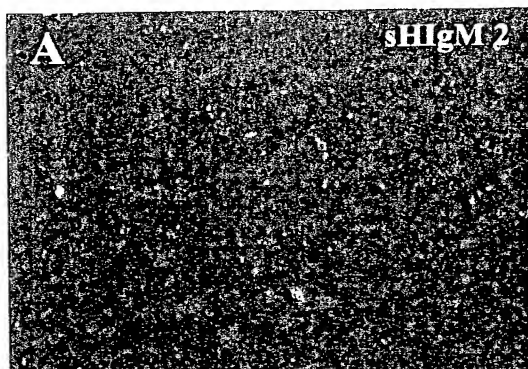


FIG. 21B

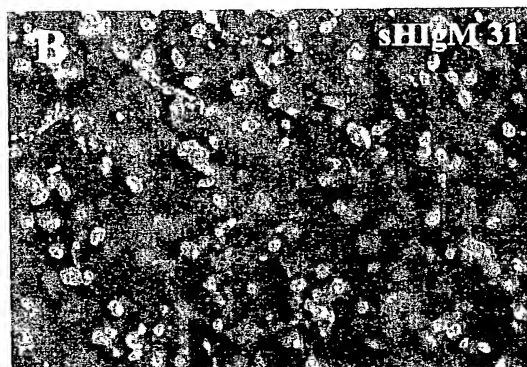


FIG. 21C

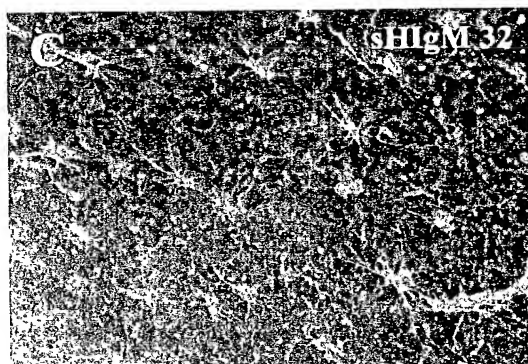


FIG. 21D

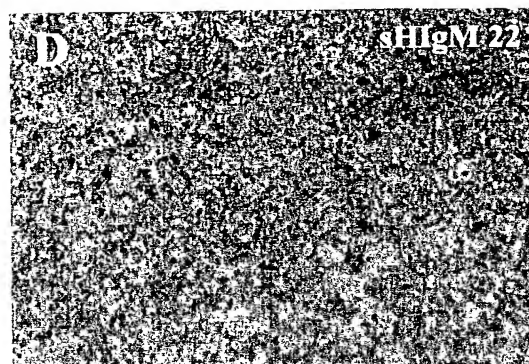


FIG. 21E



FIG. 22A



FIG. 22B



FIG. 22C



FIG. 22D

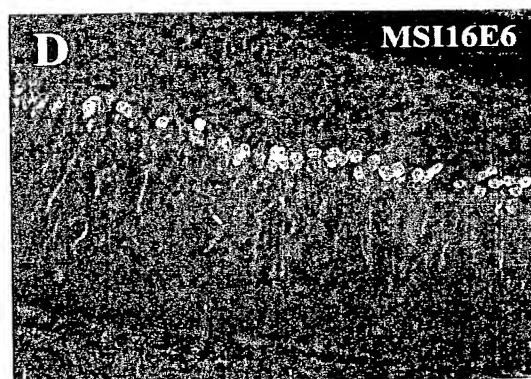


FIG. 22E

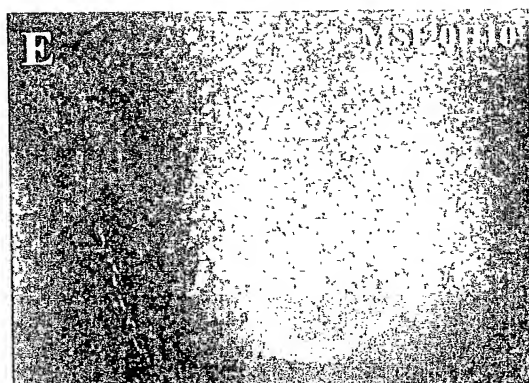


FIG. 22F

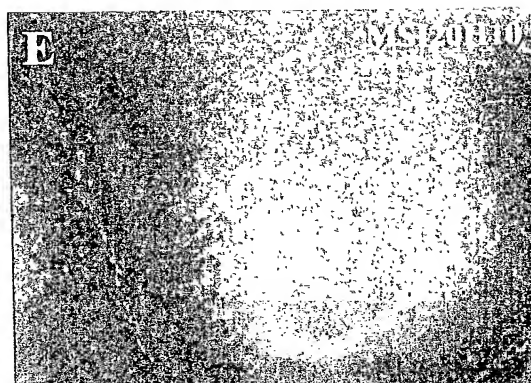


FIG. 23B

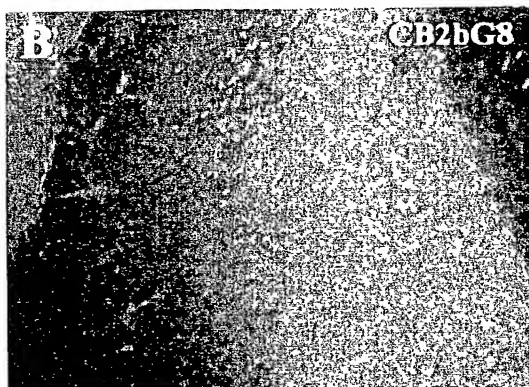


FIG. 23D

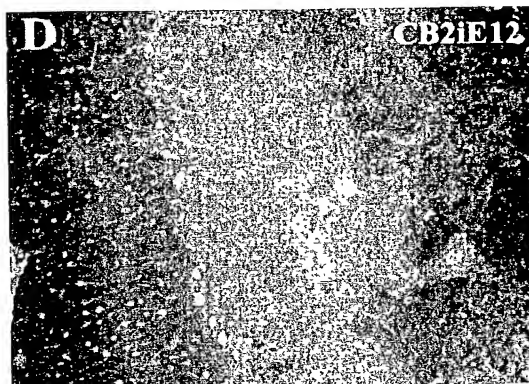
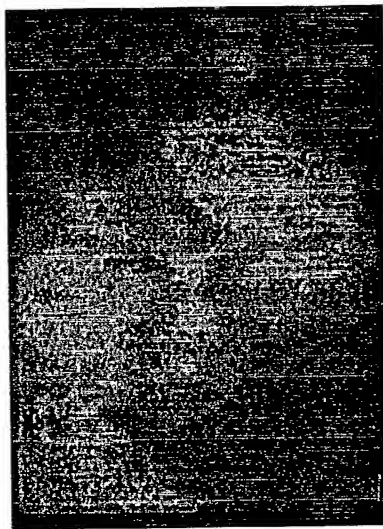
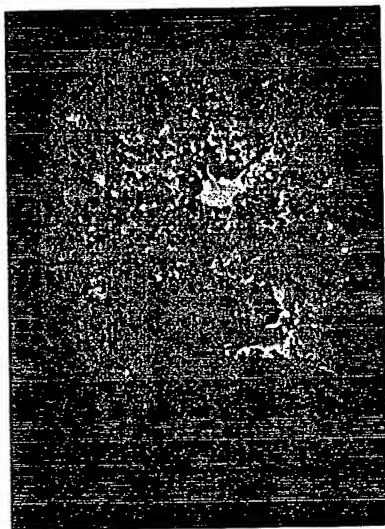


FIG. 23F



FIG. 24B



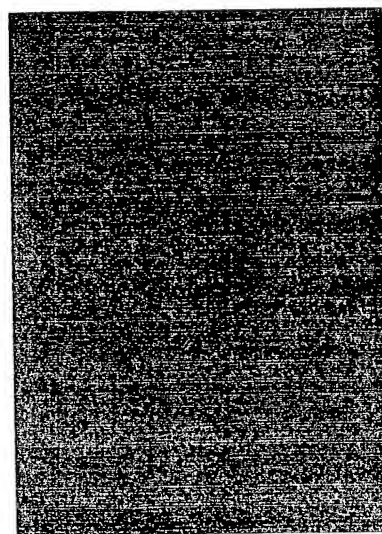
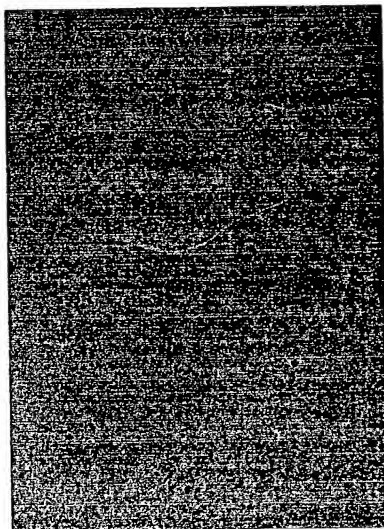
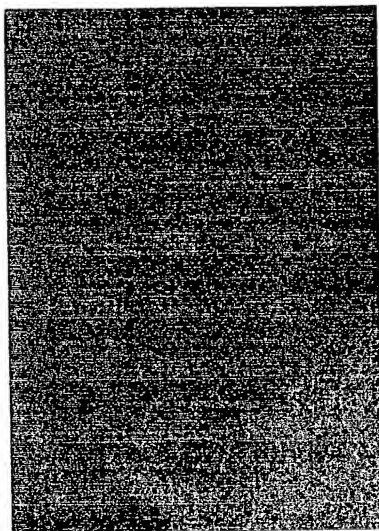
Polyclonal hIgM

MBP+ OL

FIG. 24C

FIG. 24D

FIG. 24E



Polyclonal hlgG

sHlgM 1

sHlgM 2

F **sHlgM 51**

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FIG. 26A

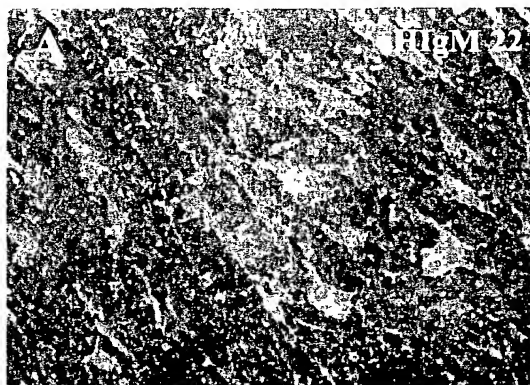


FIG. 26B

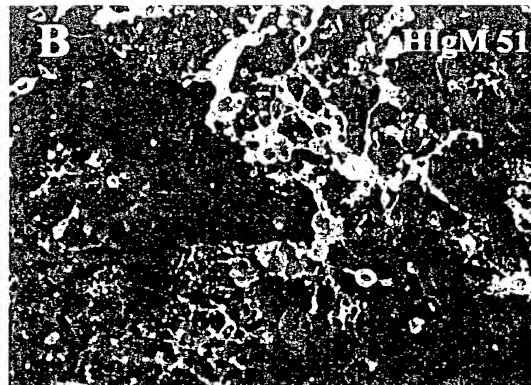


FIG. 26C

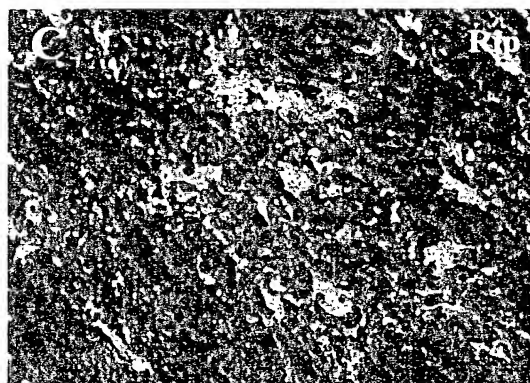


FIG. 26D

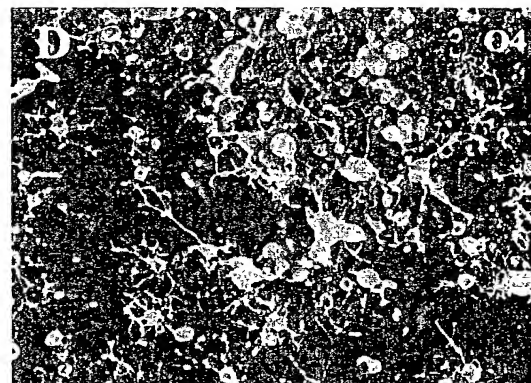


FIG. 26E

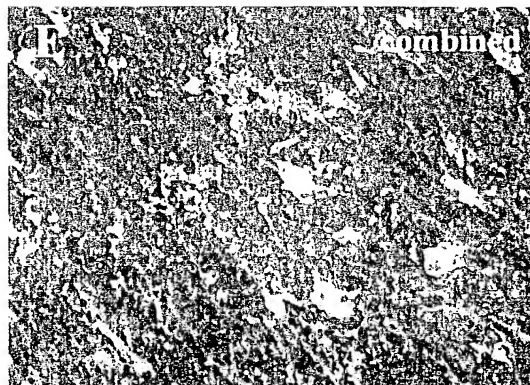


FIG. 26F

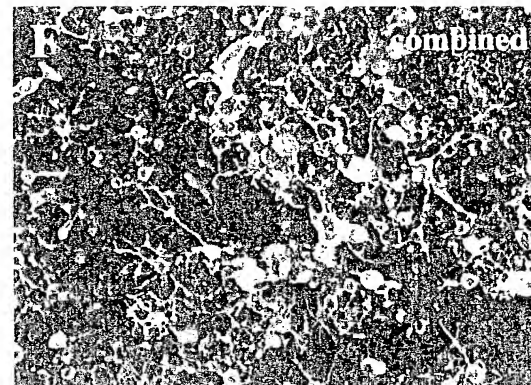


FIG. 27A

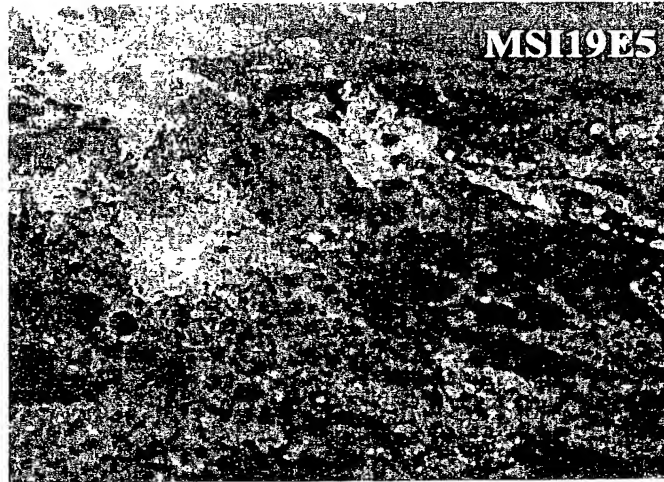


FIG. 27B

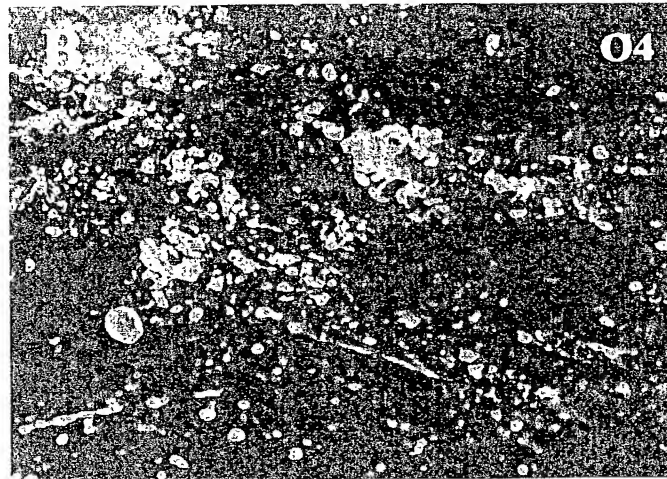


FIG. 27C

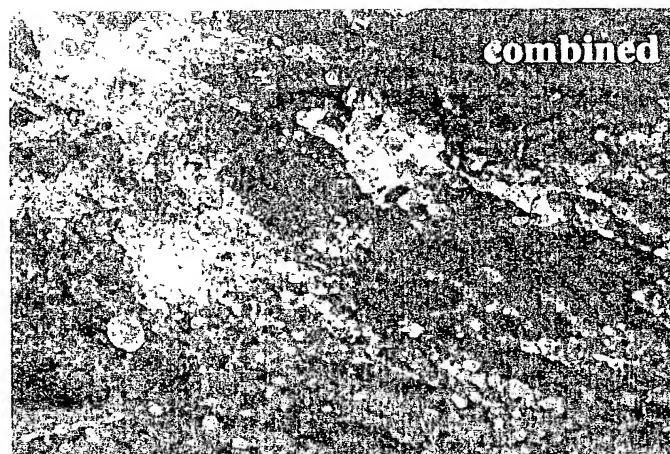




FIG. 29

ebvHlgMs Characterized by Binding to SCH via ELISA

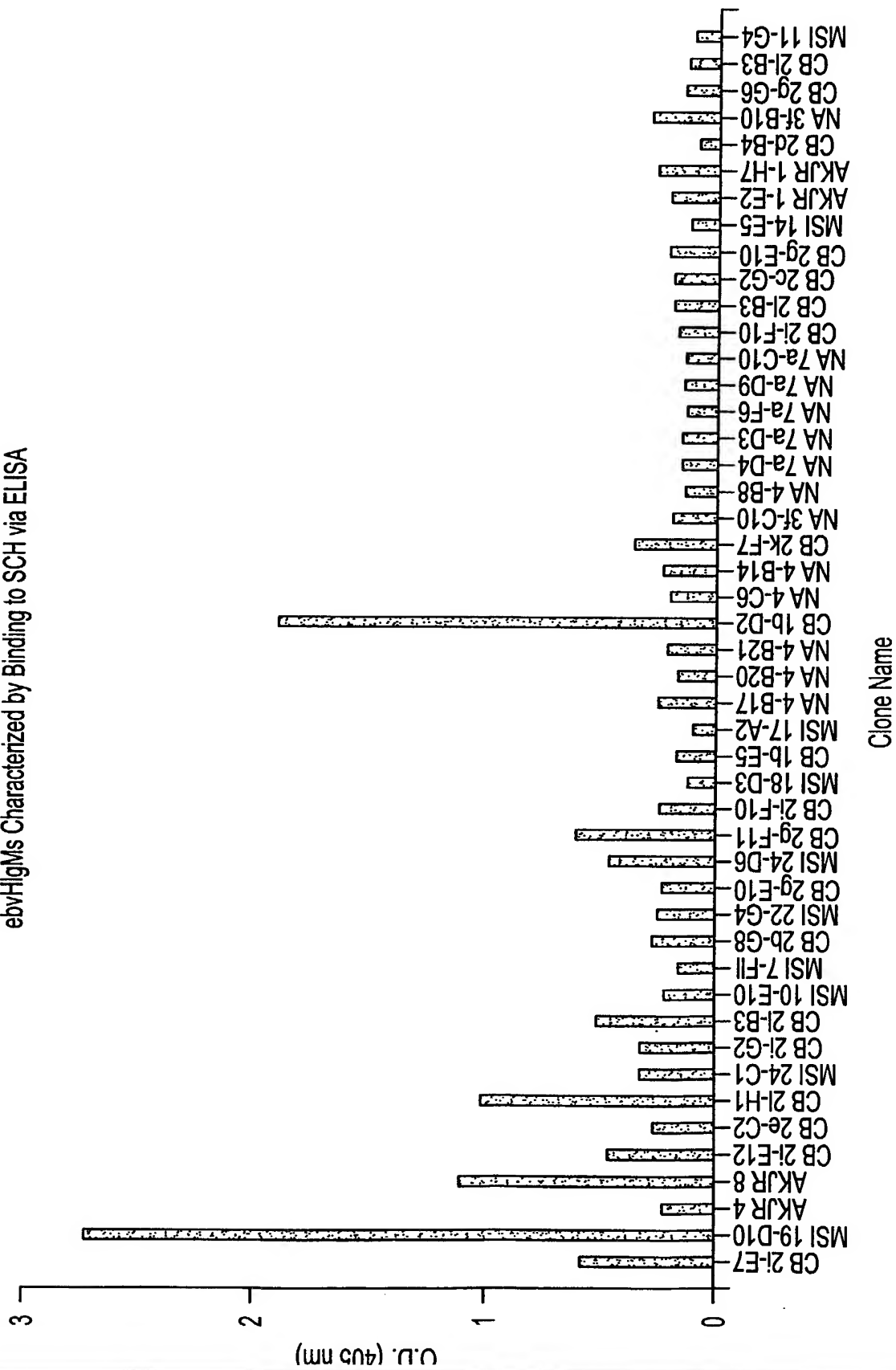


FIG. 30A

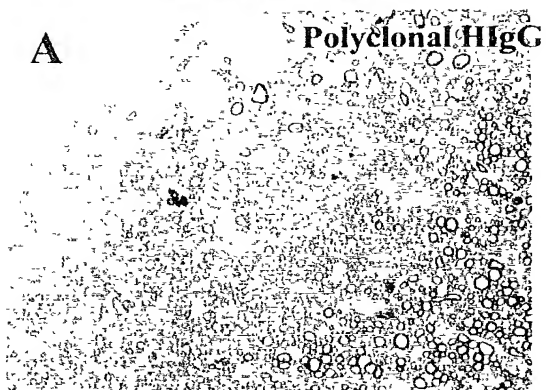


FIG. 30B

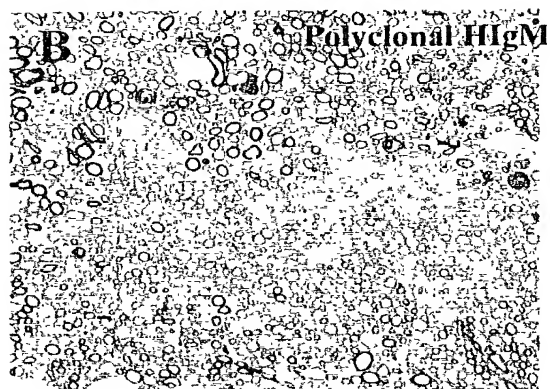


FIG. 30C

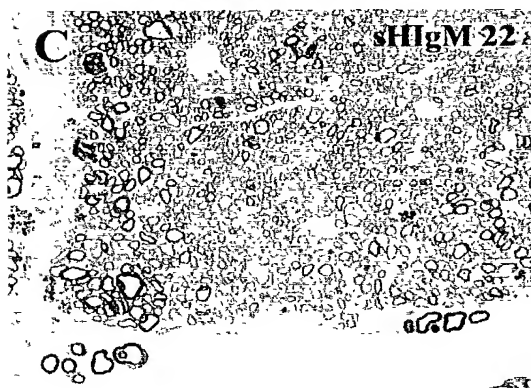


FIG. 30D



FIG. 30E

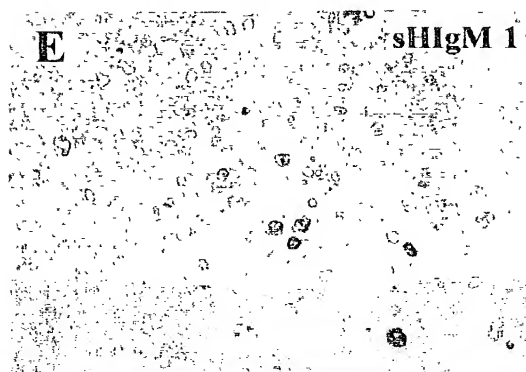


FIG. 30F

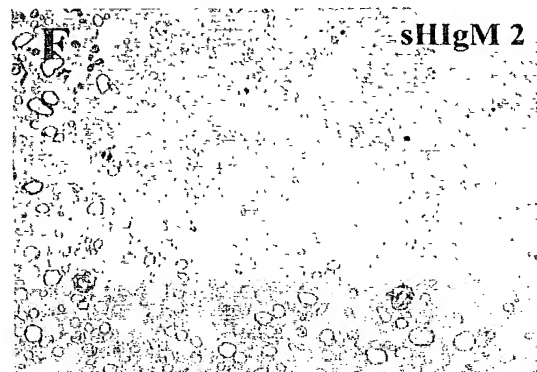


FIG. 31A

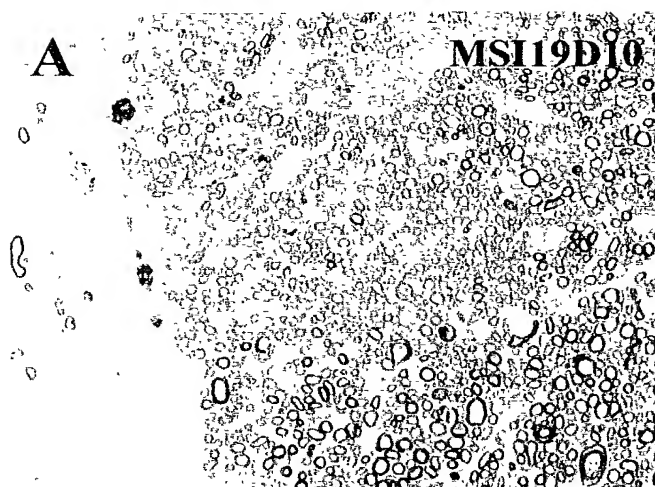


FIG. 31B

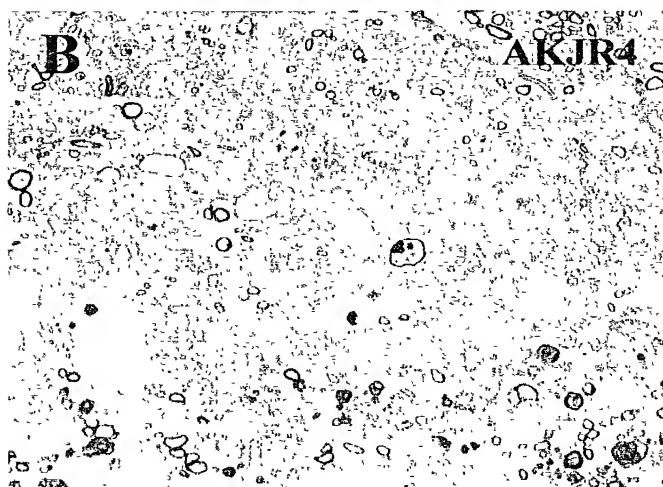
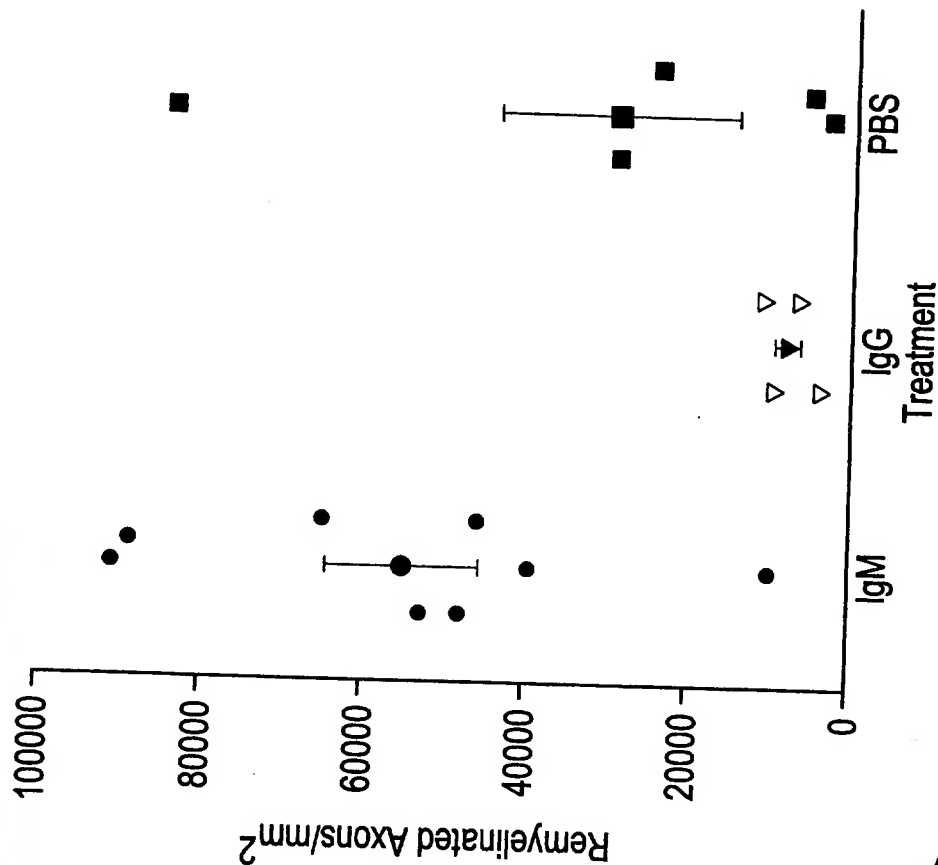


FIG. 32

Lysolecithin Experiment 21 Day Experiment



ANIMAL #	STRAIN	RX	DAY RX	Axons/mm ²
1091-98	SJL	HUMAN IGM	7	47881.04
1093-98	SJL	HUMAN IGM	7	90745.80
1094-98	SJL	HUMAN IGM	7	88638.09
1095-98	SJL	HUMAN IGM	7	52767.82
1181-98	SJL	HUMAN IGM	7	45583.42
1182-98	SJL	HUMAN IGM	7	39289.31
1183-98	SJL	HUMAN IGM	7	64636.39
1184-98	SJL	HUMAN IGM	7	9937.24
Mean				54934.89
SEM				9376.95
1135-98	SJL	HUMAN IGG	7	9433.96
1139-98	SJL	HUMAN IGG	7	3702.92
1140-98	SJL	HUMAN IGG	7	11028.19
1141-98	SJL	HUMAN IGG	7	6493.06
Mean				7664.53
SEM				1620.49
1122-98	SJL	PBS	7	2457.22
1124-98	SJL	PBS	7	23746.34
1170-98	SJL	PBS	7	83549.17
1171-98	SJL	PBS	7	4819.92
1172-98	SJL	PBS	7	28878.82
Mean				28690.29
SEM				14649.14

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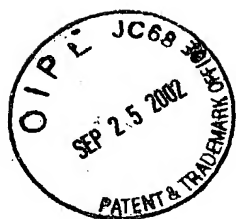
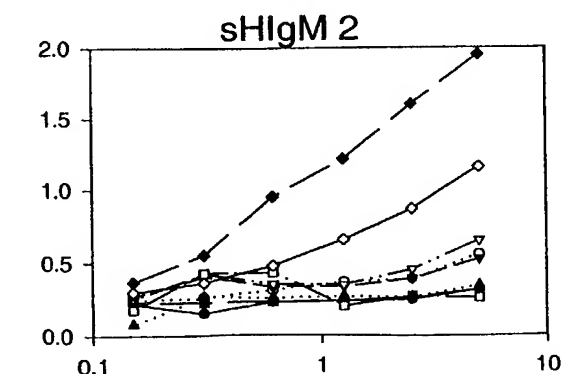
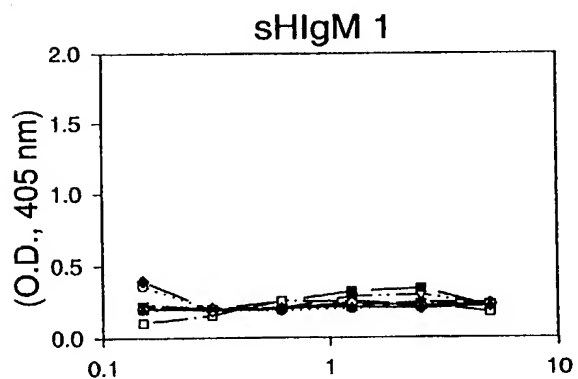
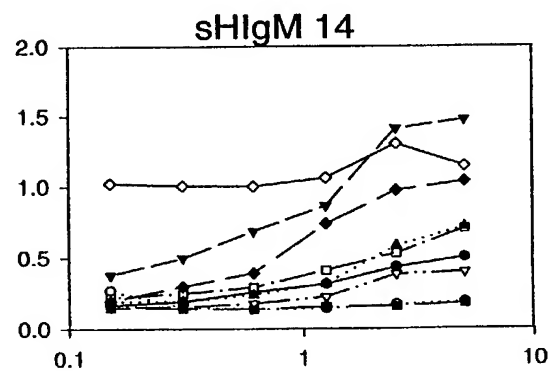
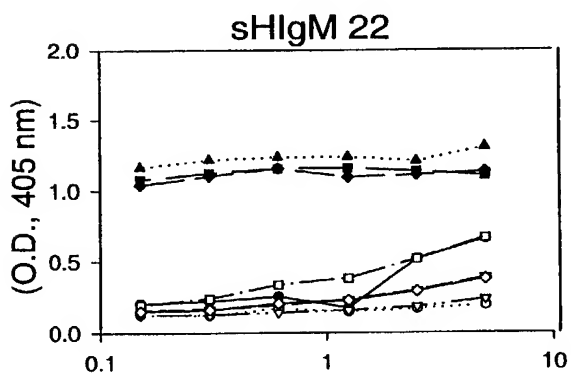
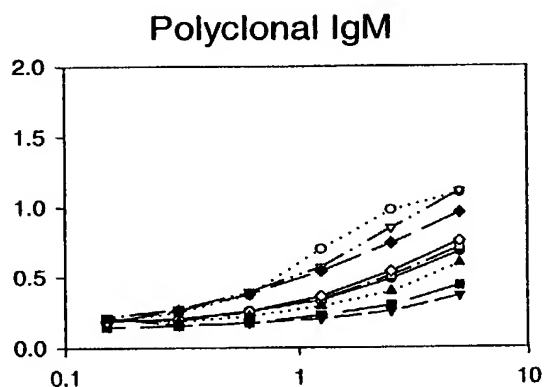
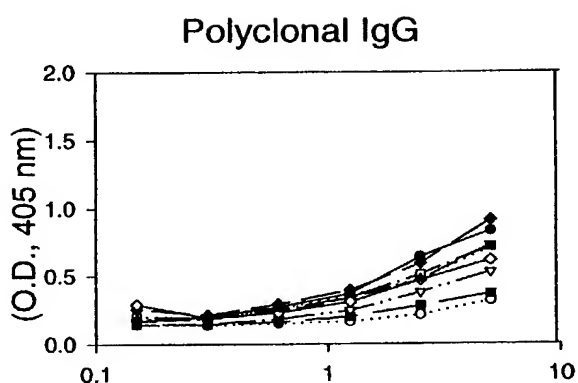


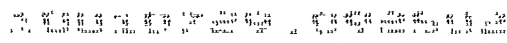
FIG. 33

Hapten Elisa

- KLH
- TMA
- ▼ ARS
- ▽ PC
- TNP
- PhoX
- ◆ NP
- ◇ FITC
- ▲ DNP



Log Antibody concentration ($\mu\text{g/ml}$)



Protein Elisa

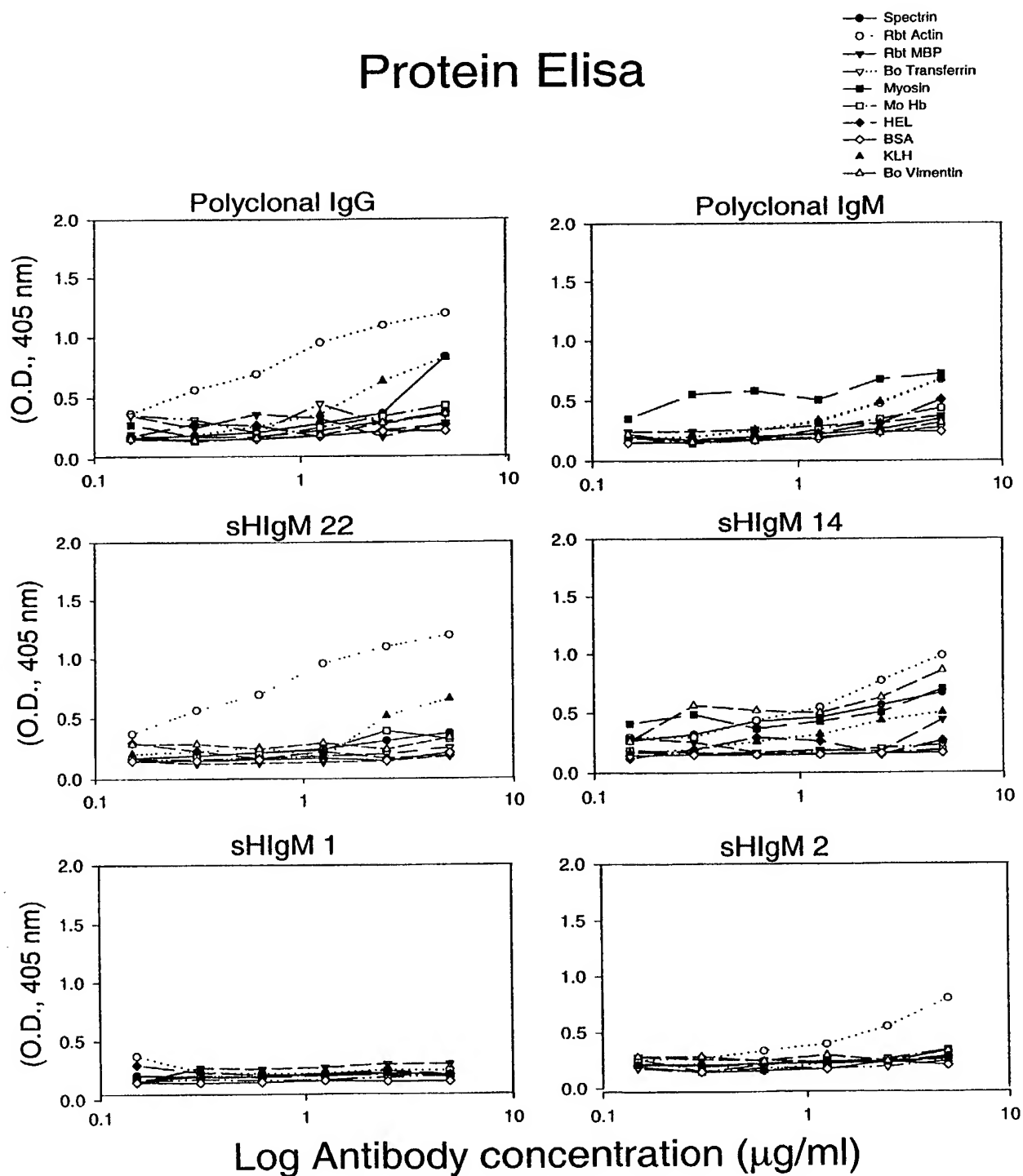




FIG. 35

/FR1-----
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
O V O L V E S G G G G V V O P G
CAG GTG CAG CTG GTG GAG TCT GGG GGA GGC GTG GTC CAG CCT GGG
Clone A sH-IgM.22 VH G
Clone B sH-IgM.22 VH

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
R S L R L S C A A S G F T F S
AGG TCC CTG AGA CTC TCC TGT GCA GCC TCT GGA TTC ACC TTC AGT

/CDR1-----/FR2-----
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
S S G M H W V R Q A P G K G L
AGC TAT GGC ATG CAC TGG GTC CGC CAG GCT CCA GGC AAG GGG CTG
C
C

/CDR2-----
46 47 48 49 50 51 52 52A 53 54 55 56 57 58 59
E W V A V(I) I S Y D G S R K Y Y
GAG TGG GTG GCA GTT ATA TCA TAT GAT GGA AGT AAT AAA TAC TAT
T
A C T
GG
GG

/FR3-----
60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
A D S V K G R F T I S R D N S
GCA GAC TCC GTG AAG GGC CGA TTC ACC ATC TCC AGA GAC AAT TCC
C
C

75 76 77 78 79 80 81 82 82A 82B 82C 83 84 85 86
K N T L Y L O M N S L T A D(E) D
AAG AAC ACG CTG TAT CTG CAA ATG AAC AGC CTG AGA GCT GAG GAC
T
T C
CG
C

/CDR3-----
87 88 89 90 91 92 93 94 95 96 97 98 99 100 100A
T A V Y Y C A K G V T G S P T
ACG GCT GTG TAT TAC TGT GCG AAA GAG GTG ACT GCT ATT CCC TAC
T
GA
GA
G
G
G
G
ACG
ACG

/FR4-----
100B 101 102 103 104 105 106 107 108 109 110 111 112 113
L D Y W G O G T L V T V S S
TTT GAC TAC TGG GGC CAG GGA ACC CTG GTC ACC GTC TCC TCA
C
C
G
G

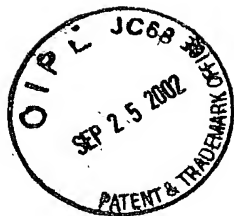


FIG. 36

/FR1-----															
1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	
O	S	V	L	T	O	P	P	S	V	S	A	A	P	G	
CAG	TCT	GTG	TTG	ACG	CAG	CCG	CCC	TCA	GTG	TCT	GCG	GCC	CCA	GGA	
Clone I sH-IgM.22 Vλ					G		T				T				
Clone II sH-IgM.22 Vλ					G		T				T				
-----/CDR1-----															
17	18	19	20	21	22	23	24	25	26	27	27A	27B	28	29	
O	K	V	T	I	S	C	S	G	S	S	S	N	I	G	
CAG	AAG	GTC	ACC	ATC	TCC	TGC	TCT	GGA	AGC	AGC	TCC	AAC	ATT	GGG	
														C	
														C	
-----/FR2-----															
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
N	N	F	V	S	W	Y	O	O	L	P	G	T	A	P	
AAT	AAT	TAT	GTA	TCC	TGG	TAC	CAG	CAG	CTC	CCA	GGA	ACA	GCC	CCC	
		T						A							
		T						A							
-----/CDR2-----/FR3-----															
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	
R(K)	L	L	I	Y	D	I	T	K	R	P	S	G	I	P	
AAA	CTC	CTC	ATT	TAT	GAC	AAT	AAT	AAG	CGA	CCC	TCA	GGG	ATT	CCT	
G						T	C								
						T	C								

60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	
D	R	F	S	G	S	K	S	G	T	S	A	T	L	G	
GAC	CGA	TTC	TCT	GGC	TCC	AAG	TCT	GGC	ACG	TCA	GCC	ACC	CTG	GGC	
-----/CDR3-----															
75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	
I	T	G	L	O	T	G	D	E	A	D	Y	Y	C	G(E)	
ATC	ACC	GGA	CTC	CAG	ACT	GGG	GAC	GAG	GCC	GAT	TAT	TAC	TGC	GGA	

-----/FR4-----															
90	91	92	93	94	95	95A	95B	96	97	98	99	100	101	102	
T	W	D	S	S	L	S	A	V	V	F	G	G	G	T	
ACA	TGG	GAT	AGC	AGC	CTGT	GTG	GTA	TTC	GGC	GGA	GGG	ACC	
						AGT	GC					G			
						AGT	GC					G			
-----/Cλ-----															
103	104	105	106	106A	107	108	109	110							
K	L	T	V	L	G	O	P	K							
AAG	CTG	ACC	GTC	CTA	GGT	CAG	CCC	AAG							

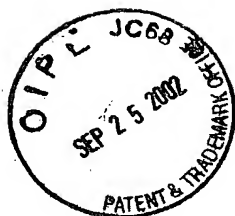


FIG. 37

Sequence of MSI 19-D10 V_H

FR1-----
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
CAG GTG CAG CTG CAG GAG TCG GGC CCA GGA CTG GTG AAG CCT TCG GAG
Q V Q L Q E S G P G L V K P S E

-----/CDR1
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
ACC CTG TCC CTC ACC TGC ACT GTC TCT GGT GGC TCC ATC AGT AGT
T L S L T C T V S G G S I S S

-----/FR2-----
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
TAC TAC TGG AGC TGG ATC CGG CAG CCC CCA GGG AAG GGA CTG GAG
Y Y W S W I R Q P P G K G L E

-----/CDR2-----
47 48 49 50 51 52 53 54 55 56 57 58 59 60 61
TGG ATT GGG TAT ATC TAT TAC AGT GGG AGC ACC AAC TAC AAC CCC
W I G Y I Y Y S G S T N Y N P

-----/FR3-----
62 63 64 65 66 67 68 69 70 71 72 73 74 75 76
TCC CTC AAG AGT CGA GTC ACC ATA TCA GTA GAC ACG TCC AAG AAC
S L K S R V T I S V D T S K N

77 78 79 80 81 82 82A 82B 82C 83 84 85 86 87 88
CAG TTC TCC CTG AAG CTG AGC TCT GTG ACC GCT GCG GAC ACG GCC
Q F S L K L S S V T A A D T A

-----/CDR3-----
89 90 91 92 93 94 95 96 97 98 99 100 100A100B100C
GTG TAT TAC TGT GCG AGG TCG GCA CAG CAG CAG CTG GTA TAC TAC
V Y Y C A R S A Q Q Q L V Y Y

-----/FR4-----/C_μ-
100D 101 102 103 104 105 106 107 108 109 110 111 112 113 114
TTT GAC TAC TGG GGC CAG GGA ACC CTG GTC ACC GTC TCC TCA GGG
F D Y W G Q G T L V T V S S G



FIG. 38

Sequence of MSI 19-D10 V_K

FR 1-----
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
GAC ATC GTG ATG ACC CAG TCT CCA GAC TCC CTG GCT GTG TCT CTG
D I V M T Q S P D S L A V S L

-----/CDR1-----
16 17 18 19 20 21 22 23 24 25 26 27 27A 27B 27C
GGC GAG AGG GCC ACC ATC AAC TGC AAG TCC AGC CAG AGT GTT TTA
G E R A T I N C K S S Q S V L

-----/FR2-----
27D 27E 27F 28 29 30 31 32 33 34 35 36 37 38
TAC AGC TCC AAC AAT AAG AAC TAC TTA GCT TGG TAC CAG CAG
Y S S N N K N Y L A W Y Q Q

-----/CDR2-----
39 40 41 42 43 44 45 46 47 48 49 50 51 52 53
AAA CCA GGA CAG CCT CCT AAG CTG CTC ATT TAC TGG GCA TCT ACC
K P G Q P P K L L I Y W A S T

-----/FR3-----
54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
CGG GAA TCC GGG GTC CCT GAC CGA TTC AGT GGC AGC GGG TCT GGG
R E S G V P D R F S G S G S G

69 70 71 72 73 74 75 76 77 78 79 80 81 82 83
ACA GAT TTC ACT CTC ACC ATC AGC AGC CTG CAG GCT GAA GAT GTG
T D F T L T I S S L Q A E D V

-----/CDR3-----/FR4
84 85 86 87 88 89 90 91 92 93 94 95 96 97 98
GCA GTT TAT TAC TGT CAG CAA TAT TAT AGT ACT CCT CTC ACT TTC
A V Y Y C Q Q Y Y S T P L T F

-----/Ck-----
99 100 101 102 103 104 105 106 107 108 109 110 111 112 113
GGC CCT GGG ACC AAA GTG GAT ATC AAA CGA ACT GTG GCT GCA CCA
C D A M V V D T V D A M V V A D A

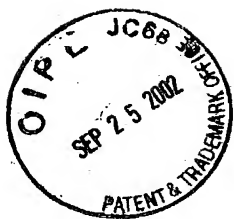


FIG. 39A

Mixed Primary Glia
sH-IgM.22 Ca^{2+} response

- ratio cell #1
- ratio cell #2
- △ sH-IgM.22 ($3\mu\text{g/ml}$)
- ▲ Br-A23187 ($10\mu\text{M}$)

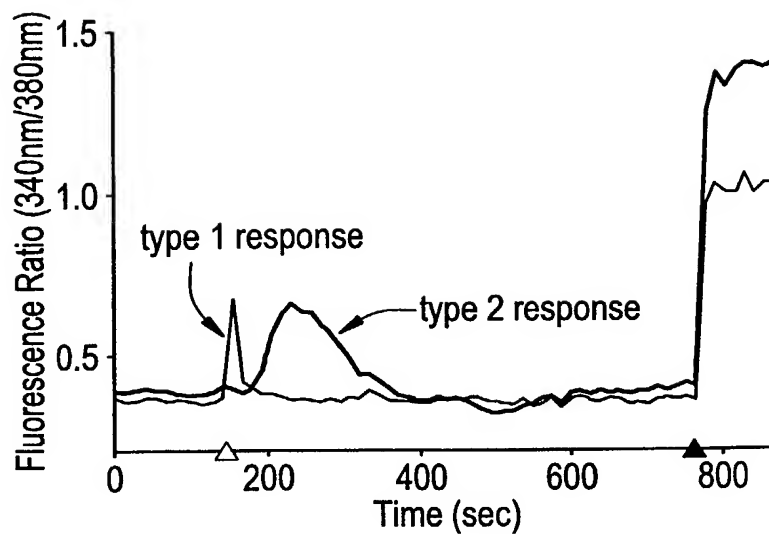


FIG. 39B

Mixed Primary Glia
SCH 94.03 Ca^{2+} response

- ratio cell #1
- ratio cell #2
- △ SCH 94.03 ($3\mu\text{g/ml}$)
- ▲ Br-A23187 ($10\mu\text{M}$)

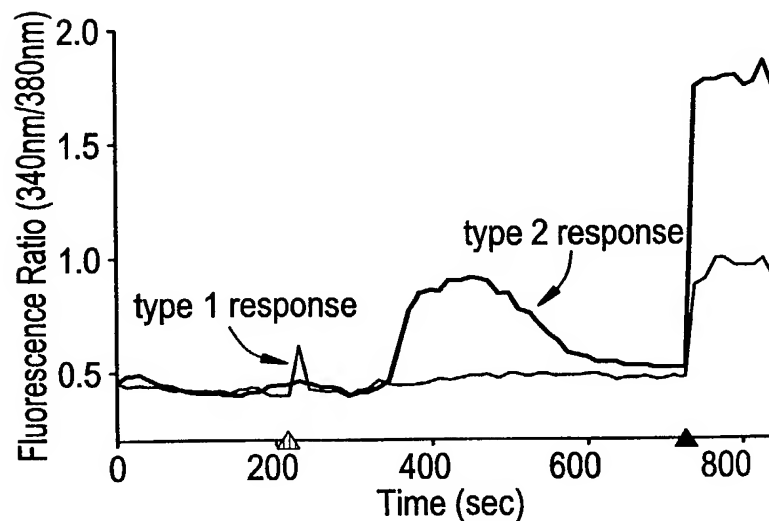
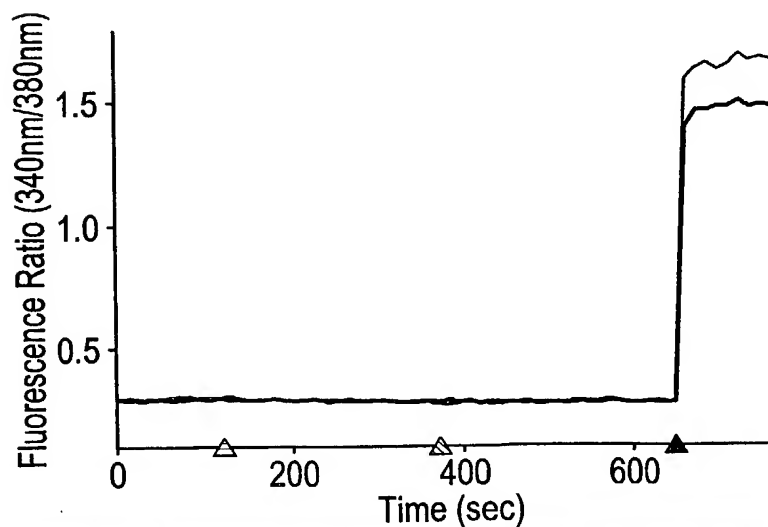


FIG. 39C

Mixed Primary Glia
CH 12/sH-IgM.14 Ca^{2+} response

- ratio cell #1
- ratio cell #2
- △ CH 12 ($3\mu\text{g/ml}$)
- △ sH-IgM.14 ($3\mu\text{g/ml}$)
- ▲ Br-A23187 ($10\mu\text{M}$)



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FIG. 40A

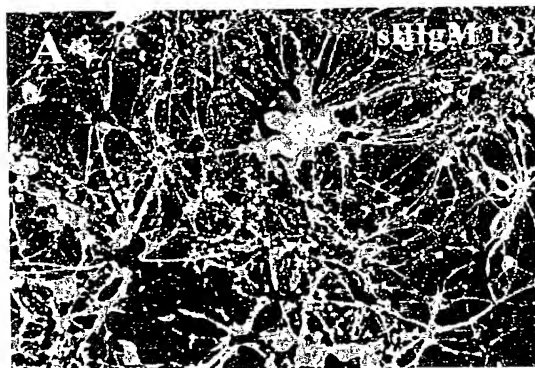


FIG. 40B



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FIG. 41

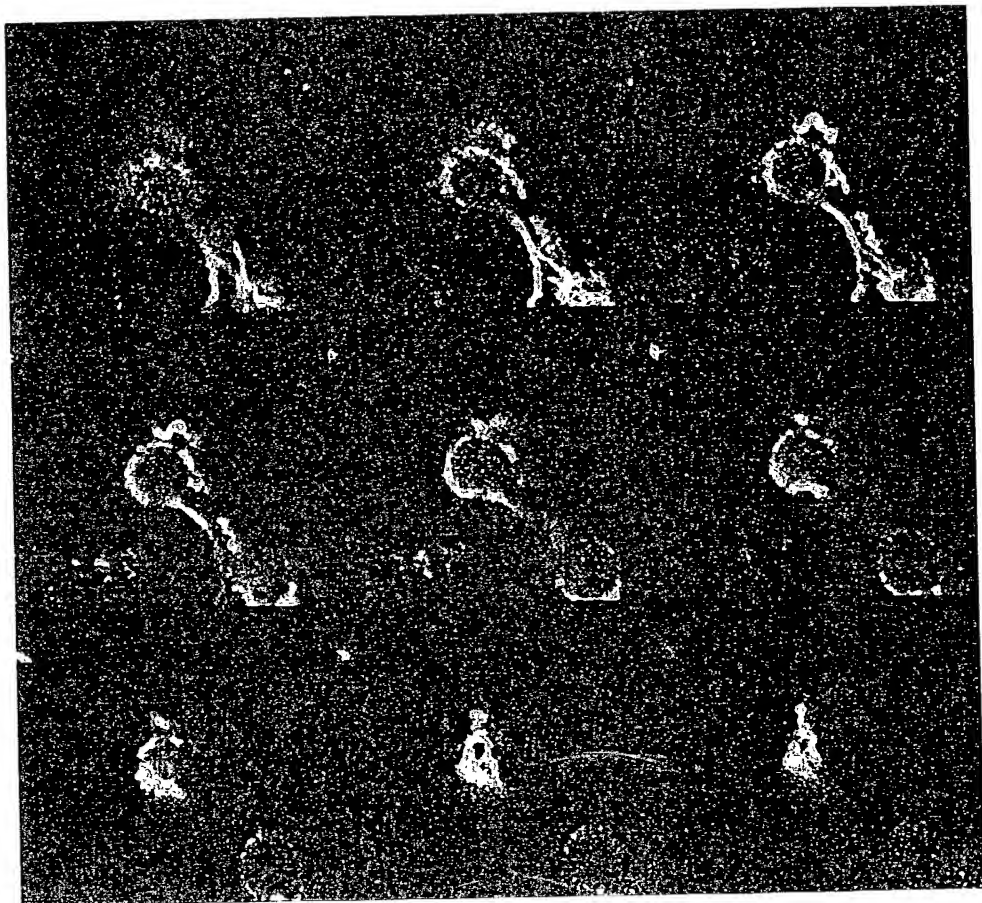


FIG. 42A

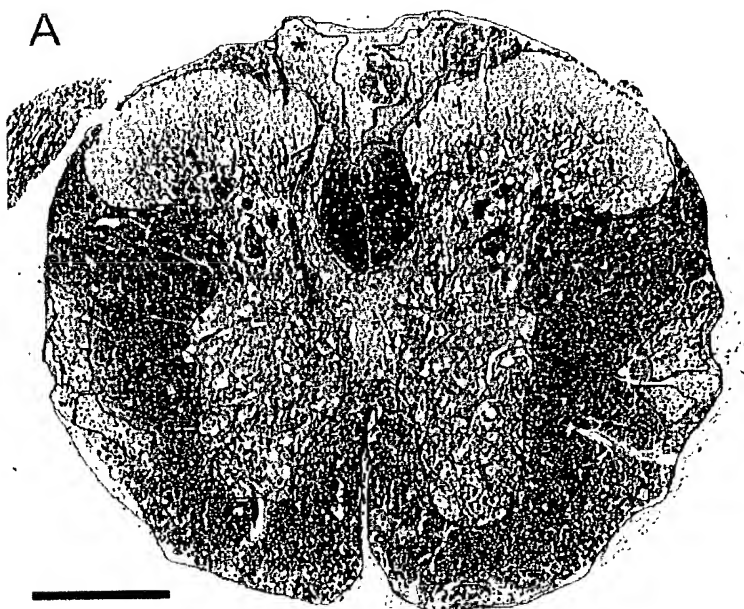
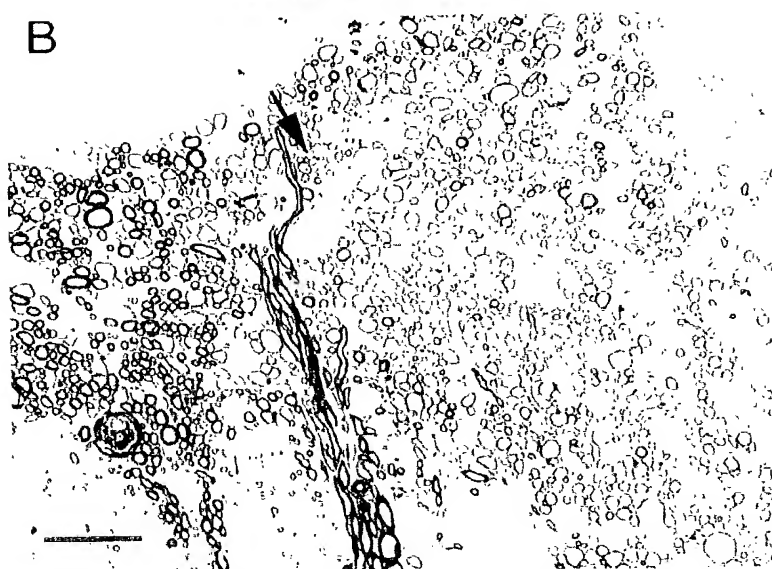


FIG. 42B



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FIG. 43A



FIG. 43B

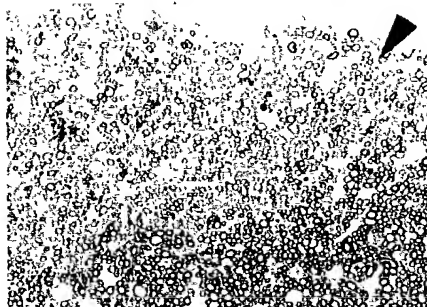


FIG. 43C

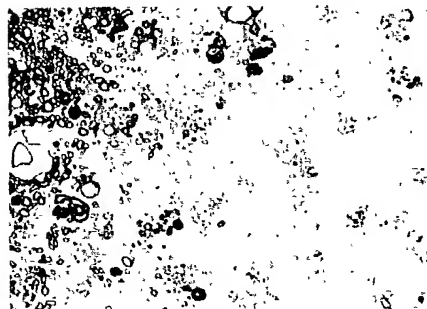


FIG. 43D

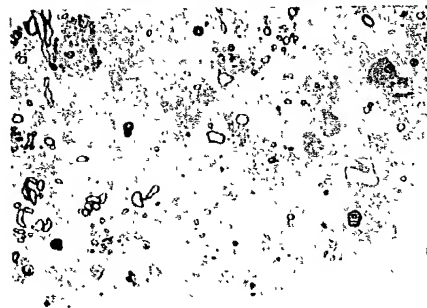


FIG. 43E

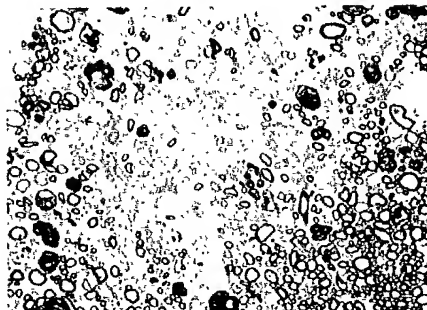


FIG. 43F

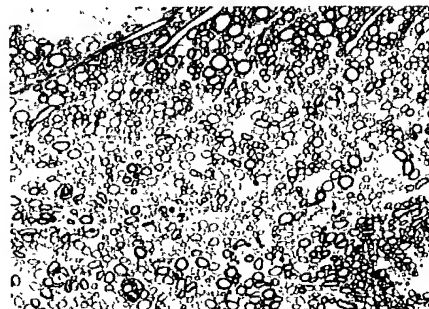


FIG. 43G

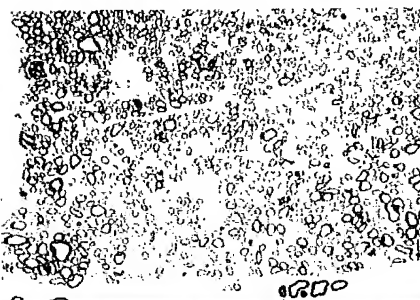


FIG. 43H

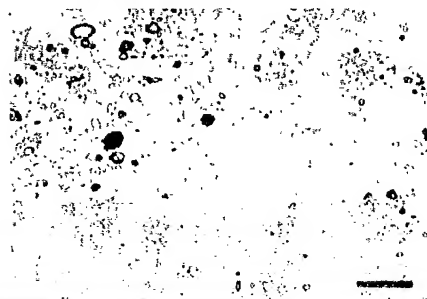


FIG. 44A

FIG. 44A

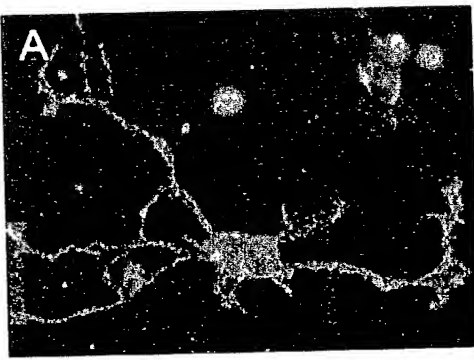


FIG. 44B

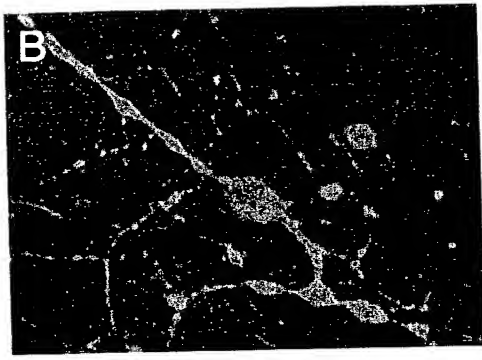


FIG. 44C

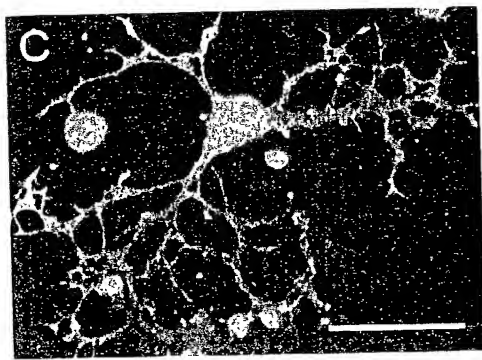
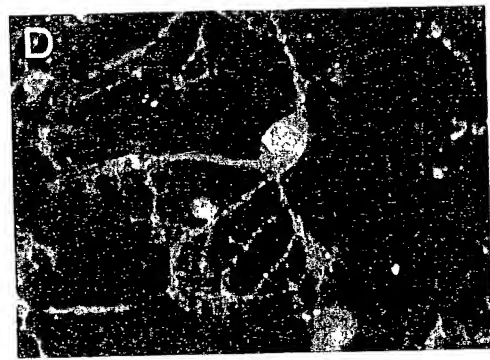
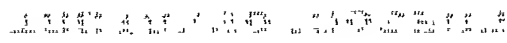


FIG. 44D



[illegible]



Translation of CB2b-G8 V_λ

```

<----- F R 1 - I M G T -----
1 5 10 15 20
... .TT x x L ... CTG TCT GGG TCT CCT GGA CAG TCG ATC ACC ATC TCC
      XGC CTC

----->
C T 25 S S D V 30 G G Y N Y 35 V S 40 W Y Q Q
CTG ACT GGA ACC AGC AGT GAC GTT GGT GGT TAT AAC TAT ... GTC TCC TGG TAC CAA CAG

F R 2 - I M G T ----->
45 50 55 60 65
H P G K A P K L M I Y D V S ... D
CAC CCA GGC AAA GCC CCC AAA CTC ATG ATT TAT GAT GTC AGT ... GAT

----- F R 3 - I M G T -----
70 75 80 85
R P S G V S N R F S G S K ... S G N T A S
CGG CCC TCA GGG GTT TCT ... AAT CGC TTC TCT GGC TCC AAG ... TCT GGC AAC ACG GCC TCC

----->
L 90 95 100 105 110
CTG ACC ATC TCT GGG CTC CAG GCT GAG GAC GAG GCT GAT TAT TAC TGC AGC TCA TAT ACA AGC AGC
      Q A E D E A D Y Y C S S Y T S S

115 120 125
S S V V F G G G T K L T V L G Q P K A A P S
AGC TCT GTG GTA TTC GGC GGA GGG ACC AAG CTG ACC GTC CTA GGT CAG CCC AAG GCT GCC CCC TCG

V T L F P P P x
GTC ACT CTG TTC CCG CCT CCA AXG G

```

FIG. 47A

DHFR amplification of 94.03k

4 5

0.2 51.2 0.2 51.2 Neg Pos

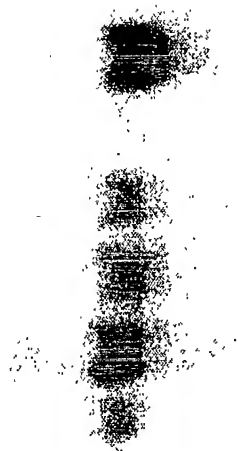


FIG. 47B

Clone #4 Kappa Chain Elisa

0.2 ug/ml methotrexate
51.2 ug/ml methotrexate

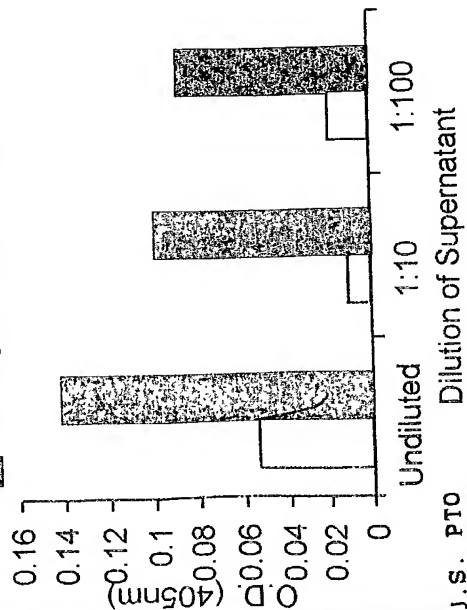


FIG. 47C

Clone #5 Kappa Chain Elisa

0.2 ug/ml methotrexate
51.2 ug/ml methotrexate

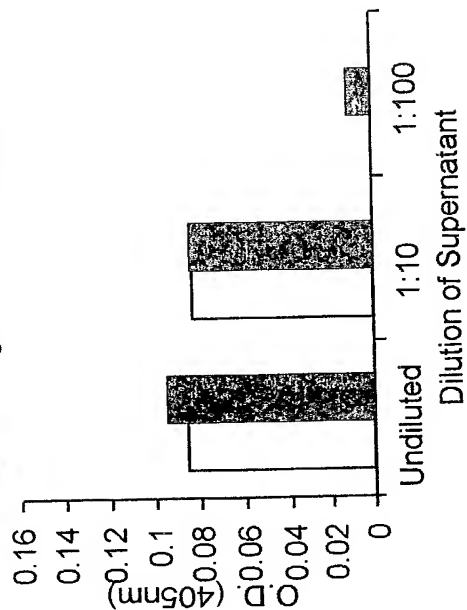
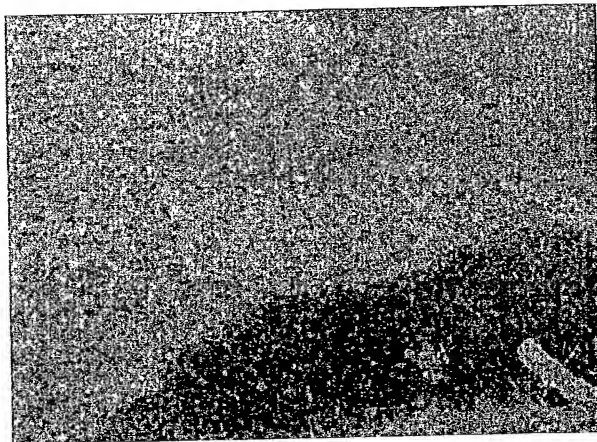
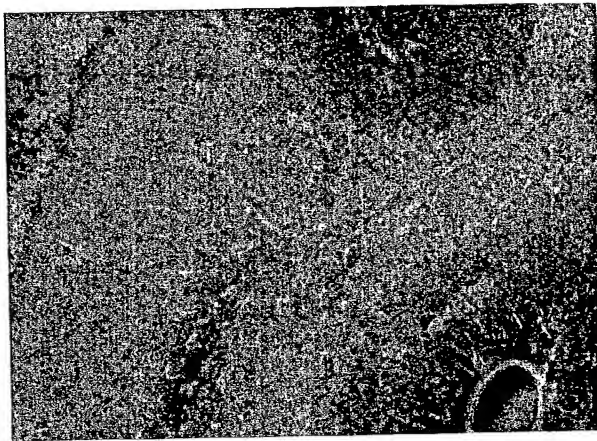


FIG. 49A



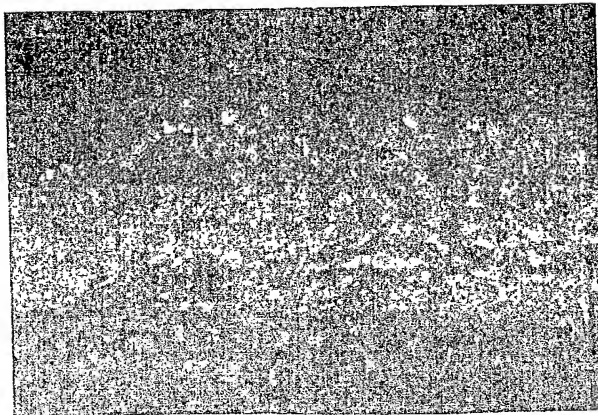
Mouse 94.03

FIG. 49B



Humanized 94.03
clone 1

FIG. 49C



Humanized 94.03
clone 2



FIG. 50A

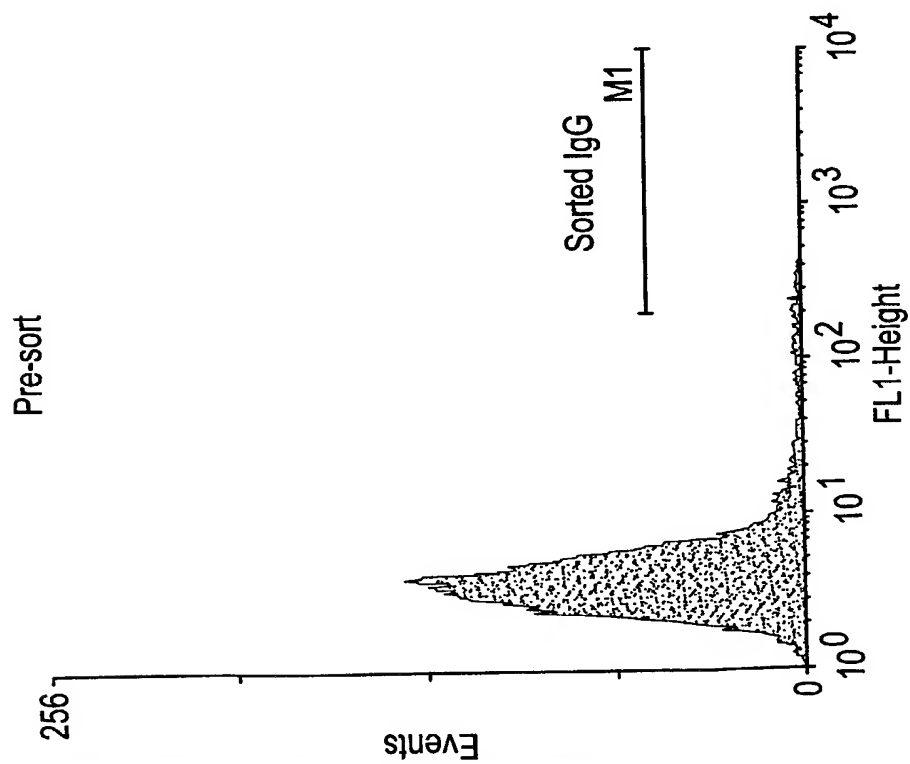


FIG. 50B

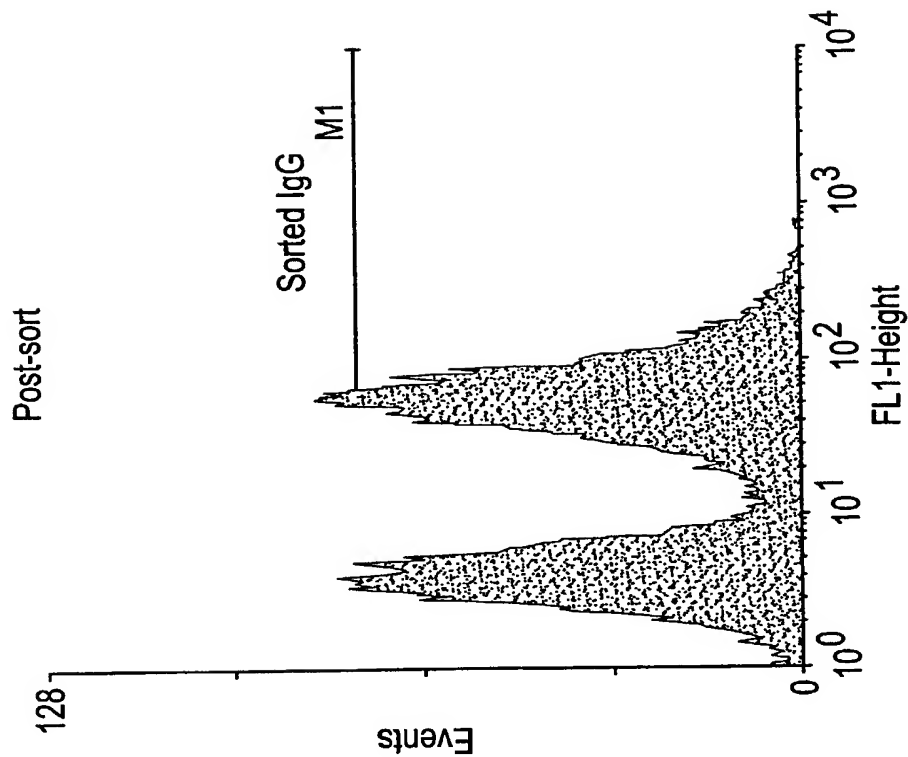
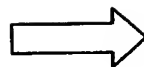
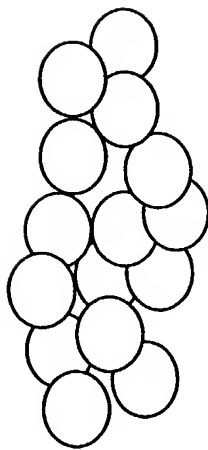





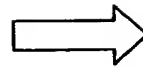
FIG. 51


Sequencing of 94.03 IgG

94.03 IgG Cloned Cells




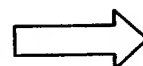
mRNA  AAAAAA



94.03 primer 

cDNA  TTTTTT

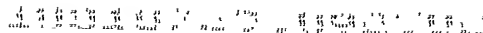
IgG1 primer 



PCR

ATGCAGTTACATGCATACTGAACTGCATGCTTTCCAG

Sequence with 94.03 V region plus IgG1



09 V_R Sequence with translation:

```

<----- F R 1 - I M G T -----
1      5      10      15      20
Q  D  H  L  Q  Q  S  G  P  E  L  V  K  P  G  A  F  V  K  I  S
CAG GAT CAC CTG CAG CAG TCT GGA CCT ...GAG CTG GTG AAG CCT GGG GCT TTT GTG AAG ATA TCC

----->                                     <-----
                25      30      35      40
C  K  A  S  G  Y  T  F  T  N  Y  D  L  N  W  V  R  Q
TGC AAG GCT TCT GGT TAC ACC TTC ACA AAC TAC GAT ... . . . .CTA AAC TGG GTG AGG CAG

F R 2 - I M G T ----->                                     <--
-
45      50      55      60      65
R  P  G  Q  G  L  E  W  I  G  W  I  Y  P  G  N  D  N  T  K
AGG CCT GGA CAG GGC CTT GAG TGG ATT GGA TGG ATT TAT CCT GGA AAT GAT AAT ACT ... .AAG

----->                                     F R 3 - I M G T -----
70      75      80      85
Y  N  E  K  F  K  G  L  A  S  L  T  A  D  K  S  S  T  T  A  Y
TAC AAT GAG AAG TTC AAG ...GGC CTG GCC TCA CTG ACT GCA GAC AAG TCC TCC ACC ACA GCC TAC

----->
90      95      100      105      110
L  H  L  S  S  L  T  S  E  S  S  A  V  Y  F  C  A  R  G  L  P  R
TTG CAT CTC AGC AGC CTG ACT TCT GAG AGC TCT GCA GTC TAT TTC TGT GCA AGA GGG TTA CCT AGG

CDR3 - IMGT -----
115      120
G  W  Y  F  D  V  W  G  A  G  T  T  V  T  V  S  S  A
GGC TGG TAC TTC GAT GTC TGG GGC GCA GG ACC ACC GTC ACC GTC TCC TCA GCT

```



Translation of 09 kappa light chain 1:

FIG. 53

<----- F R 1 - I M G T ----->

1 N I V M T Q S P K S M S 10 15 20
AAC ATT GTA ATG ACC CAA TCT CCC AAA TCC ATG TCC ATG TCA GTA GGA GAG AGG GTC ACC TTG ACC

<----->

25 C K A S E N V V T Y 30 35 CDR1 - IMGT
TGC AAG GCC AGT GAG AAT GTG GTT ACT TAT ... GTT TCC TGG TAT CAA CAG

<----->

45 F R 2 - I M G T -----> CDR2 - IMGT 60 65
K P E Q S P K L L I Y G A S
AAA CCA GAG CAG TCT CCT AAA CTG CTG ATA TAC GGG GCA TCC ... AAC

----- F R 3 - I M G T -----

70 R Y T G V P 75 80 85
CGG TAC ACT GGG GTC CCC ... GAT CGC TTC ACA GGC AGT GGA ... TCT GCA ACA GAT TTC ACT

----->

90 L T I S S V Q A E D L A D Y H C G Q G Y S Y
CTG ACC ATC AGC AGT GTG CAG GCT GAA GAC CTT GCA GAT TAT CAC TGT GGA CAG GGT TAC AGC TAT

-----> CDR3 - IMGT 100 105 110

115 P Y T F G G
CCG TAC ACG TTC GGA GGG GGG

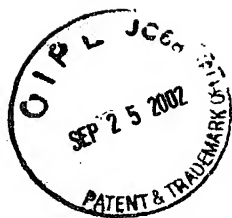


FIG. 54 Translation of 09 kappa light chain 2:

<----- F R I - I M G T ----->

1 5 10 15 20
D V Q I T Q S P S Y L A A F P G E T I T I N
GAT GTC CAG ATA ACC CAG TCT CCA TCT TAT CTT GCT GCA TTT CCT GGA GAA ACC ATT ACT ATT AAT

<----->

25 30 35 40
C R A S K S I S K Y L A W Y Q E
TGT AGG GCA AGT AAG AGC ATT AGT AAA TAT ... TTA GCC TGG TAT CAA GAG

<----->

F R 2 - I M G T -----> CDR1 - IMGT 35 40
45 50 55 60 65
R P G K T N K L L I Y S G S
AGA CCT GGA AAA ACT AAT AAG CTT ATC TAC TCT GGA TCC ... ACT

<----->

F R 3 - I M G T ----->

70 75 80 85
L Q S G I P S R F S G S G T D F T
TTG CAA TCT GGA ATT CCA ... TCA AGG TTC AGT GGC AGT GGA ... TCT GGT ACA GAT TTC ACT

<----->

90 95 100 105 110
L T I S S L E P E D F A M Y Y C Q Q H N E Y
CTC ACC ATC AGT AGC CTG GAG CCT GAA GAT TTT GCA ATG TAT TAC TGT CAA CAG CAT AAT GAA TAC

<----->

115
P Y T F G G
CCG TAT ACG TTC GGA GGG GGG



Translation of AKJR 4 Heavy Chain:

FIG. 55

<----- F R 1 - I M G T ----->

1 E V Q L L E S G G 10 G L V Q P G G S L R L S 20
GAG GTG CAA CTA TTG GAA TCT GGG GGA ... GGC TTG GTA CAG CCT GGG GGG TCC CTG AGA CTC TCC

<----->

CDR1 - IMGT 30 35 40
C A A S G F S F I D Y A M S W V R Q
TGT GCA GCC TCT GGA TTC AGC TTT ATC GAC TAT GCC ... ATG AGC TGG GTC CGC CAG

<----->

CDR2 - IMGT 55 60 65
F R 2 - I M G T -----> F R 3 - I M G T ----->

45 A P G G K G L E W V S S L S G D S G S S Y
GCT CCA GGG AAG GGA CTG GAG TGG GTC TCA AGT CTG AGT GGT GAT AGT TCA ... TAT

<----->

70 75 80 85
Y A D S V K G R F T I S R D N S K S T V F
TAT GCA GAC TCC GTG AAG ... GGC CGA TTC ACC ATC TCC AGA GAC AAT TCC AAG AGC ACG GTG TTT

<----->

CDR3 - IMGT 95 100 105 110
L Q L S S L R A E D T A I Y Y C A Q E T G P
CTG CAA CTG AGC AGC CTG AGA GCC GAG GAC ACG GCC ATA TAT TAC TGT GCG CAG GAG ACC GGT CCC

<----->

115 120 125 130
Q R R W G Q G T L V T V S S G S A S A P T L
CAG CGT CGC TGG GGC CAG GGA ACC CTG GTC ACC GTC TCC TCA GGG AGT GCA TCC GCC CCA ACC CTT



FIG. 56

<----- F R I - I M G T ----->									
1	5	10	15	20					
D I Q M T Q S P S T L S A S V G D R V T I T									
GAC ATC CAG ATG ACC CAG TCT CCT TCC ACC CTG TCT GCA TCT GTA GGG GAC AGA GTC ACC ATC ACT									
<----->									
CDR1 - IMGT									
25	30	35	40						
C R A S Q S I S S W	L A W Y Q Q								
TGC CGG GCC AGT CAG AGT ATT AGT AGC TGG	TTG GCC TGG TAT CAG CAG								
<----->									
F R 2 - I M G T	CDR2 - IMGT				60	65			
45	50	55	60						
K P G K A P K L L I Y K A F	N								
AAA CCA GGG AAA GCC CCT AAA CTC CTG ATC TAT AAG GCG TTT	AAT								
<----->									
F R 3 - I M G T									
<----->									
70	75	80	85						
L E S G V P S R F R G S G	S G T E F T								
TTA GAA AGT GGG GTC CCA ... TCA AGG TTC AGA GGC AGT GGC ...	TCT GGG ACA GAA TTC ACT								
<----->									
CDR3 - IMGT									
90	95	100	105	110					
L T I S S L Q P D D S A T Y Y C Q Q Y S S Y	Y								
CTC ACC ATC AGC AGC CTG CAG CCT GAT GAT TCT GCA ACT TAT TAC TGC CAG CAG TAT AGT AGT TAC									
<----->									
115	120	125	130						
P L T F G G G T K V D I K R T V A A P S V F	TTC								
CCC CTC ACT TTC GGC GGA GGG ACC AAG GTG GAC ATT AAA CGA ACT GTG GCT GCA CCA TCT GTC TTC									

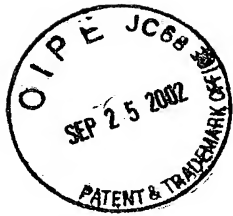


FIG. 57 Translation of CB2i-E12 Heavy Chain:

<----- F R 1 - I M G T ----->

1 5 10 15 20
x R x x x E A S V K V S
.CC AGG ... XAG XAX AXG AAA XCG GAG GCC TCA GTG AAG GTC TCC

<----->

CDR1 - IMGT 30 35 40
C K A S G Y T F T G Y Y M H W V R Q
TGC AAG GCT TCT GGA TAC ACC TTC ACC GGC TAC TAT ... ATG CAC TGG GTG CGA CAG

F R 2 - I M G T ----->

CDR2 - IMGT 55 60 65
A P G Q G L E W M G W I N P N S G G T N
GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA TGG ATC AAC CCT AAC AGT GGT GGC ACA ... AAC

<----->

70 75 80 85
Y A Q K F Q G R V T M T R D T S I S T A Y
TAT GCA CAG AAG TTT CAG ... GGC AGG GTC ACC ATG ACC AGG GAC ACC TCC ATC AGC ACA GCC TAC

<----->

90 95 100 105 110
M E L S R L R S D D T A V Y Y C A R D R S Y
ATG GAG CTG AGC AGG CTG AGA TCT GAC GAC ACC GGC GTG TAT TAC TGT GCG AGA GAT CGA TCG TAT

CDR3 - IMGT 115 120 125
P G R N Y F D Y W G Q G T L V T
CCG GGA AGG AAC TAC TTT GAC TAC TGG GGC CAG GGA ACC CTG GTC ACC

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



FIG. 58 Translation of CB2i-E12 kappa chain:

```
<----- F R I - I M G T ----->
1      5      10      15      20
E I V L T Q S P G T L S L S P G E R A T L S
GAA ATT GTG TTG ACG CAG TCT CCA GGC ACC CTG TCT CCA GGG GAA AGA GCC ACC CTC TCC

----->
25      30      35      40
C R A S Q S V S S Y L A W Y Q Q
TGC AGG GCC AGT CAG AGT GTT AGC AGC AGC TAC ... TTA GCC TGG TAC CAG CAG

F R 2 - I M G T -----> CDR2 - IMGT 60 65
45      50      55      60      65
K P G Q A P R L L I Y G A S S
AAA CCT GGC CAG GCT CCC AGG CTC ATC TAT GGT GCA TCC ... AGC

----- F R 3 - I M G T ----->
70      75      80      85
R A T G I P D R F S S G S G T D F T
AGG GCC ACT GGC ATC CCA ... GAC AGG TTC AGT GGC AGT GGG ... TCT GGG ACA GAC TTC ACT

-----> CDR3 - IMGT 105 110
90      95      100      105      110
L T I S R L E P E D F A V Y Y C Q Q Y G S S
CTC ACC ATC AGC AGA CTG GAG CCT GAG GAT TTT GCA GTG TAT TAC TGT CAG CAG TAT GGT AGC TCT

-----
115
H T F G Q G
CAC ACT TTT GGC CAG GGG
```



FIG. 59 Translation of CB2i-E7 Heavy Chain:

<----- F R 1 - I M G T ----->

1 5 10 15 20
x G L V K P G S L R L S
... .GA ... GGC TTG GTC AAG CCT GGA GGG TCC CTG AGA CTC TCC

<----->

25 30 35 40
C A S G F T F S D Y Y M S W I R Q
TGT GCA GCC TCT GGA TTC ACC TTC AGT GAC TAC TAC ... ATG AGC TGG ATC CGC CAG

F R 2 - I M G T ----->

45 50 55 60 65
A P G K G L E W V S Y I S S S Y T N
GCT CCA GGG AAG GGG CTG GAG TGG GTT TCA TAC ATT AGT AGT AGT AGT TAC ACA ... AAC

<----->

70 75 80 85
Y A D S V K G R F T I S R D N A K N S L Y
TAC GCA GAC TCT GTG AAG ... GGC CGA TTC ACC ATC TCC AGA GAC AAC GCC AAG AAC TCA CTG TAT

<----->

90 95 100 105 110
L Q M N S L R A E D T A V Y Y C A R D R S S
CTG CAA ATG AAC AGC CTG AGA GCC GAG GAC ACC GCT GTG TAT TAC TGT GCG AGA GAT CGG TCG AGC

CDR3 - IMGT

115 120 125
S S W Y Y Y Y G M D V W G Q G
AGC AGC TGG TAC TAC TAC TAC TAC GGT ATG GAC GTC TGG GGC CAA GGG



FIG. 60 Translation of CB2i-E7 kappa Chain:

----- F R 1 - I M G T -----

1 D I Q M T Q S P S L S A S V G D R V T I T 20
GAC ATC CAG ATG ACC CAG TCT CCA TCC TCC CTG TCT GCA TCT GTA GGA GAC AGA GTC ACC ATC ACT

-----> <-----

25 30 35 40
C R A S Q G I S N Y L A W Y Q Q
TGC CGG GCG AGT CAG GGC ATT AGC AAT TAT ... TTA GCC TGG TAT CAG CAG

45 50 55 60 65
K P G K V P K L I Y A A S T
AAA CCA GGG AAA GTT CCT AAG CTC CTG ATC TAT GCT GCA TCC ... ACT

----- F R 3 - I M G T -----

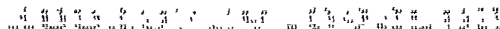
70 75 80 85
L Q S G V P S R F N G S G S G T D F T
TTG CAA TCA GGG GTC CCA ... TCT CGG TTC AAT GGC AGT GGA ... TCT GGG ACA GAT TTC ACT

-----> <-----

90 95 100 105 110
L T I S S L Q P E D V A T Y Y C Q K Y N K C
CTC ACC ATC AGC AGC CTG CAA CCT GAA GAT GTT GCA ACT TAT TAC TGT CAA AAG TAT AAC AAG TGC

-----> <-----

115
P S H F R G R D
CCC TCT CAC TTT CGG GGG AGG GAC



P I T F G
CCA ATC ACC TTC GGC



Translation of 04 kappa chain 2:

FIG. 62

<----- F R 1 - I M G T ----->

1 5 10 15 20
D I V M T Q S H K F M S T S V G D R V S I T
GAC ATC GTA ATG ACG CAG TCT CAC AAA TTC ATG TCC ACT TCA GTA GGA GAC AGG GTC AGC ATC ACC

<----->

25 30 35 40
C K A S Q D V S T A V A W Y Q Q
TGC AAG GCC AGT CAG GAT GTG AGT ACT GCT GTA GCC TGG TAT CAA CAG

F R 2 - I M G T ----->

45 50 55 60
K P G Q S P K L L I Y S A S Y
AAA CCA GGA CAA TCT CCT AAA CTA CTG ATT TAC TCG GCA TCC TAC

<----->

70 75 80 85
R Y T G V P D R F T G S G S G T D F T
CGG TAC ACT GGA GTC CCT ... GAT CGC TTC ACT GGC AGT GGA TCT GGG ACG GAT TTC ACT

<----->

90 95 100 105 110
F T I S S V Q A E D L A V Y Y C Q Q H Y T T
TTC ACC ATC AGC AGT GTG CAG GCT GAA GAC CTG GCA GTT TAT TAC TGT CAG CAA CAT TAT ACT ACT

115
P L T F G A G
CCG CTC ACG TTC GGT GCT GGG



FIG. 63A

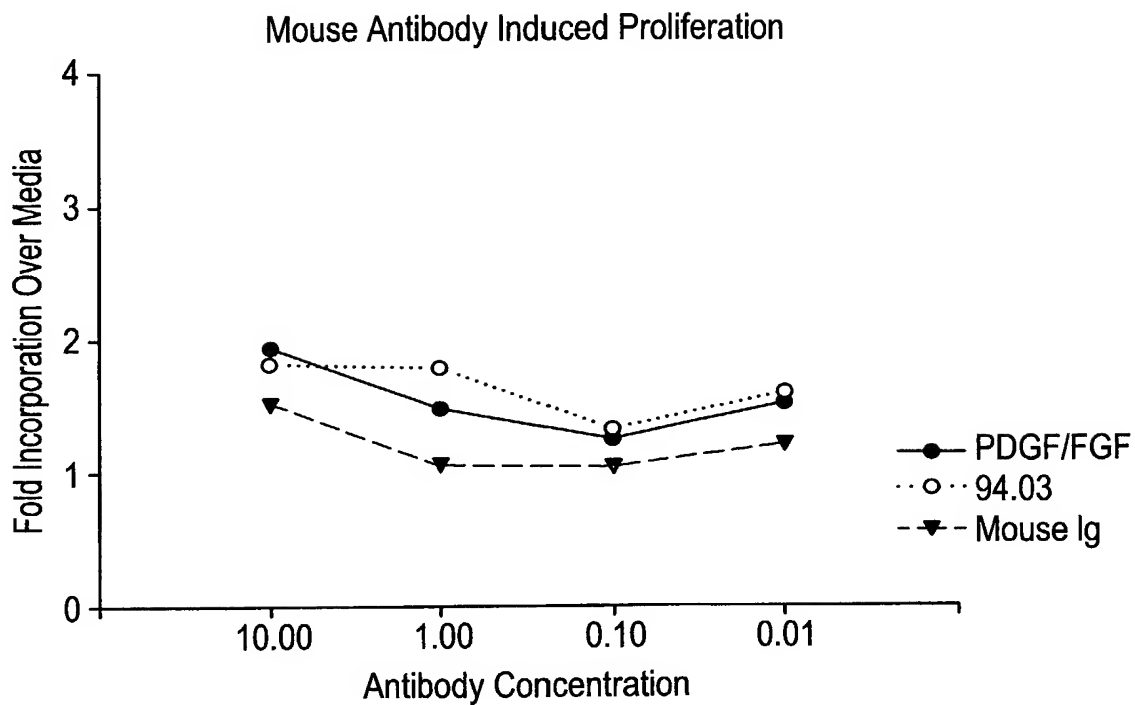


FIG. 63B

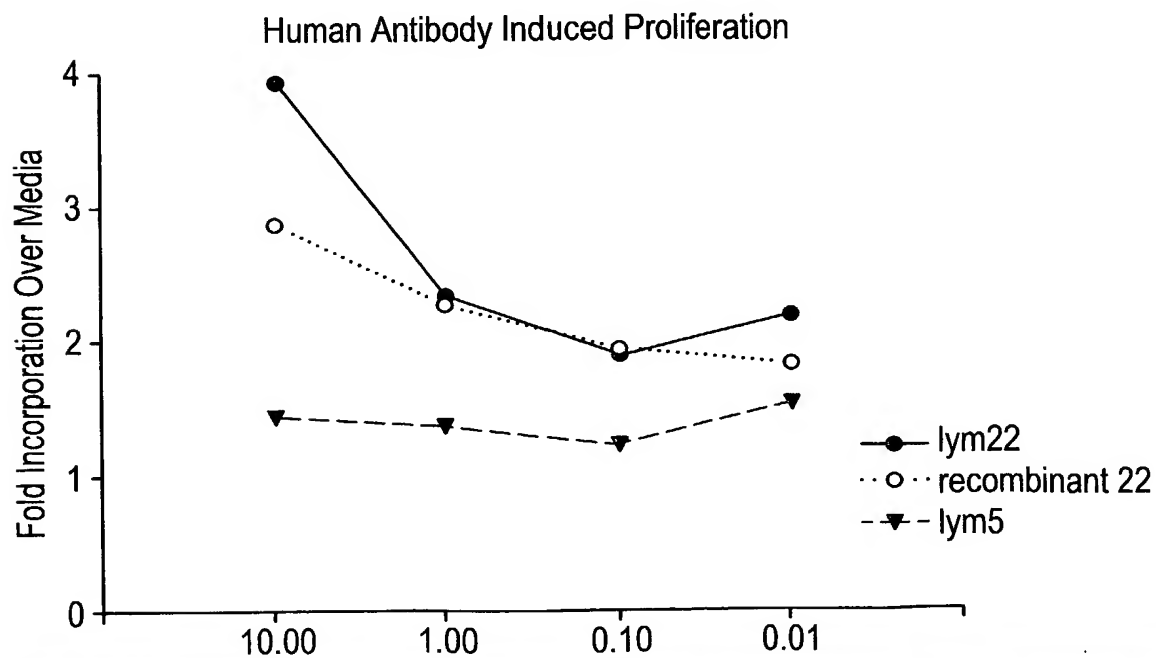
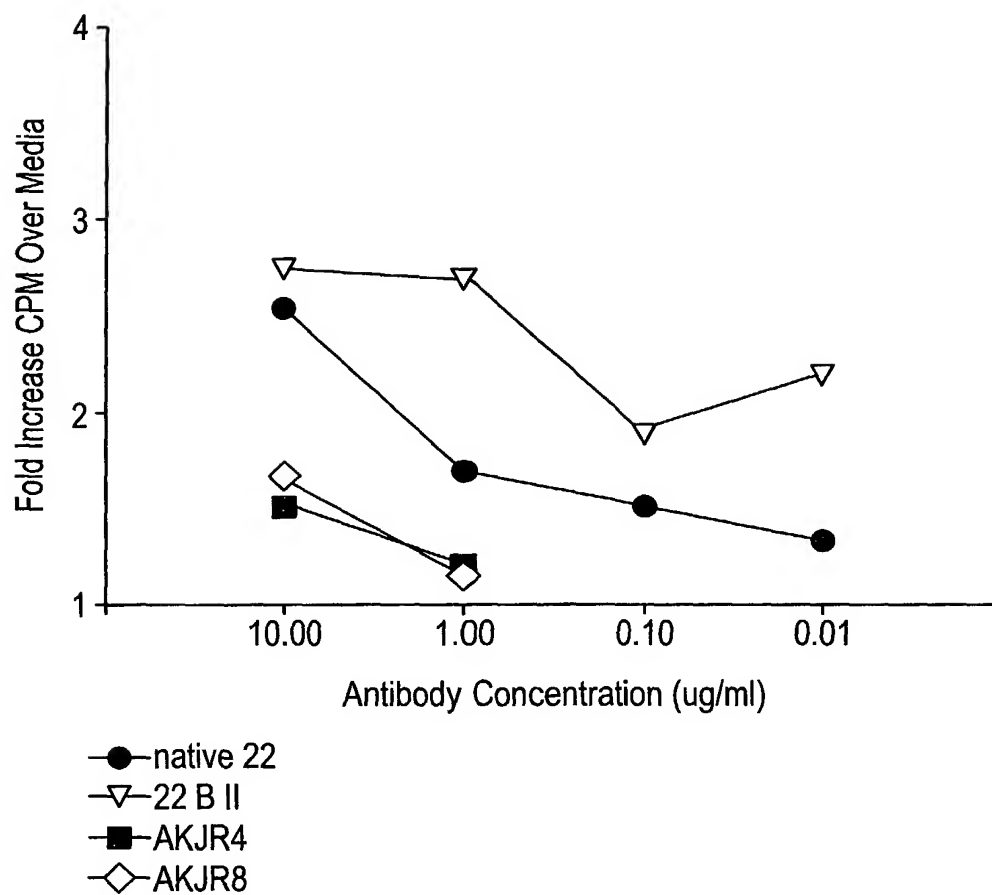
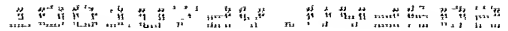




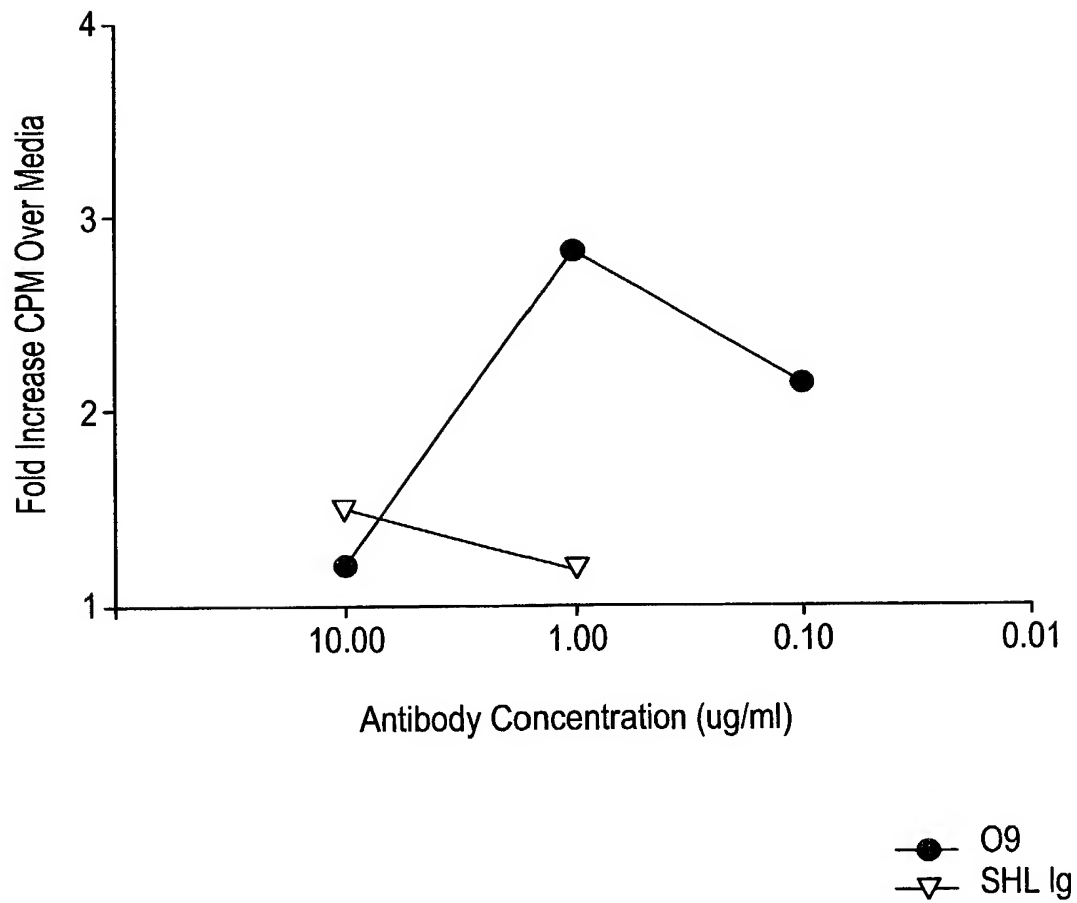
FIG. 64

Human Antibody Induced 3H Thymidine Incorporation



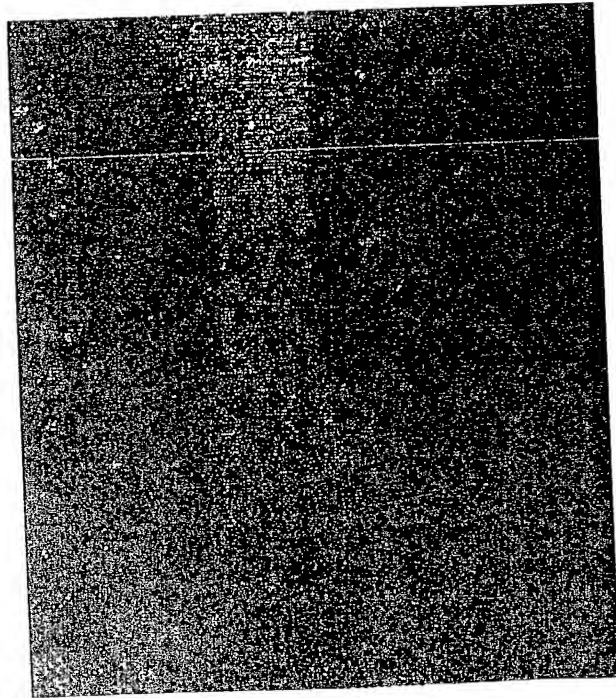


Mouse Antibody Induced 3H Thymidine Incorporation

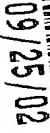


[REDACTED]

66A
G
L



SHigM 22



jc685 U.S. PTO



FIG. 68

TRANSLATION OF 01 KAPPA CHAIN

<----- F R L - I M G T ----->

1 D V Q I T Q S P S Y L A A S P G E T I T I N 20
GAT GTC CAG ATA ACC CAG TCT CCA TCT TAT CTT GCT GCA TCT CCT GGA GAA ACC ATT ACT ATT AAT

<----->

25 C R A S K S I S K Y 30 35 CDR1 - IMGT 40 L A W Y Q E
TGC AGG GCA AGT AAG AGC ATT AGC AAA TAT ... TTA GCC TGG TAT CAA GAG

45 F R 2 - I M G T -----> CDR2 - IMGT 60 65 T
K P G K T N K L L I Y S G S
AAA CCT GGG AAA ACT AAT AAG CTT CTT ATC TAC TCT GGA TCC ... ACT

70 L Q S G I P S R F S S G S G 80 85 S G T D F T
TTG CAA TCT GGA ATT CCA ... TCA AGG TTC AGT GGC AGT GGA ... TCT GGT ACA GAT TTC ACT

90 L T I S S L E P E D F A M Y Y C Q Q H N E Y 100 105 110 CDR3 - IMGT
CTC ACC ATC AGT AGC CTG GAG CCT GAA GAT TTT GCA ATG TAT TAC TGT CAA CAG CAT AAT GAA TAC

115 P Y T F G G G T K L E I K R
CCG TAC ACG TTC GGA GGG GGG ACC AAG CTG GAA ATA AAA CGG



FIG. 69

TRANSLATION OF HNK-1 KAPPA CHAIN

<----- F R I - I M G T ----->

1 5 10 15 20
D I Q M T Q S P S L S A S L G E R V S L T
GAC ATC CAG ATG ACC CAG TCT CCA TCC TCC TTA TCT GCC TCT CTG GGA GAA AGA GTC AGT CTC ACT

<----->

25 30 35 40
C R A S Q D I G S S L N W L Q Q
TGT CGG GCA AGT CAG GAC ATT GGT AGT AGC ... TTA AAC TGG CTT CAG CAG

<----->

F R 2 - I M G T -----> CDR1 - IMGT CDR2 - IMGT 65
45 50 55 60
E P D G T I K R L I Y A T S
GAA CCA GAT GGA ACT ATT AAA CGC CTG ATC TAC GCC ACA TCC ... AGT

<----->

70 75 80 85
L D S G V P K R F S G S R S G S D Y S
TTA GAT TCT GGT GTG CCC ... AAA AGG TTC AGT GGC AGT AGG ... TCT GGG TCA GAT TAT TCT

<----->

90 95 100 105 110
L T I S S L E S E D F V D Y Y C L Q Y A S
CTC ACC ATC AGC AGC CTT GAG TCT GAA GAT TTT GTA GAC TAT TAC TGT CTA CAA TAT GCT AGT TTT

<----->

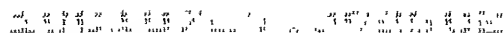
115 120
P Y T F G G G T K L E I K R
CCG TAC ACG TTC GGA GGG GGG ACC AAG CTG GAA ATA AAA CGG



FIG. 70

TRANSLATION OF A2B5 KAPPA CHAIN

1 Q I V L T Q S P A I M S A S P G E K V T I S
CAA ATT GTT CTC ACC CAG TCT CCA GCA ATC ATG TCT GCA TCT CCA GGG GAG AAG GTC ACC ATA TCC
25 C S A S S S V S Y 30 CDR1 - IMGT 35 40 M Y W Y Q Q
TGC AGT GCC ACC TCA AGT GTA AGT TAC ... ATG TAC TGG TAC CAG CAG
F R 2 - I M G T -----> CDR2 - IMGT 60 65 N
45 K P G S S P K P W I Y R T S
AAG CCA GGA TCC TCC CCC AAA CCC TGG ATT TAT CGC ACA TCC ... AAC
70 L A S G V P A R F S G S G 80 S G T S Y S
CTG GCT TCT GGA GTC CCT ... GCT CGC TTC AGT GGC AGT GGG ... TCT GGG ACC TCT TAC TCT
90 L T I S S M E A E D A A T Y Y C Q Q Y H S Y
CTC ACA ATC AGC AGC ATG GAG GCT GAA GAT GCT GCC ACT TAT TAC TGC CAG CAG TAT CAT AGT TAC
115 P L T F G A G T K L E L K R
CCA CTC ACG TTC GGT GCT GGG ACC AAG CTG GAG CTG AAA CGG



LYM 46 Heavy Chain Sequence:

4



FIG. 72

YM 46 KAPPA LIGHT CHAIN SEQUENCE:

----- F R 1 - I M G T -----

5 10 15 20
D I V M T Q S P D S L A V S L G E R A T I N
AC ATC GTG ATG ACC CAG TCT CCA GAC TCC CTG GCT GTG TCT CTG GGC GAG AGG GCC ACC ATC AAC

-----> <-----

CDR1 - IMGT 30 35 40
C K S S Q S V L Y S S N K N Y L A W Y Q Q
GC AAG TCC AGC CAG AGT GTT TTA TAC AGC TCC AAC AAT AAG AAC TAC TTA GCT TGG TAC CAG CAG

-----> <-----

CDR2 - IMGT 55 60 65
R 2 - I M G T ----- F R 3 - I M G T -----

5 50 55 60 65
K P G Q P P K L L I Y W A S
AA CCA GGA CAG CCT CCT AAA CTA CTC ATT TAC TGG GCA TCT ACC

-----> <-----

70 75 80 85
R E S G V P D R F S G S G T D F T
GG GAA TCC GGG GTC CCT ... GAC CGA TTC AGT GGC AGC GGG ... TCT GGG ACA GAT TTC ACT

-----> <-----

CDR3 - IMGT 100 105 110
L T I S S L Q A E D V A V Y Y C Q Q Y Y N T
TC ACC ATC AGC AGC CTG CAG GCT GAA GAT GTG GCA GTT TAT TAC TGT CAG CAA TAT TAT AAT ACT

-----> <-----

115 120 125 130
P Q A F G Q G T K V E I K R T V A A P S V F
CT CAG GCG TTC GGC CAA GGG ACC AAG GTG GAA ATC AAA CGA ACT GTG GCT GCA CCA TCT GTC TTC

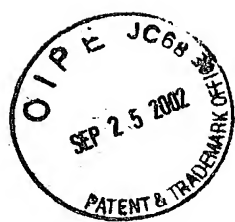


FIG. 73

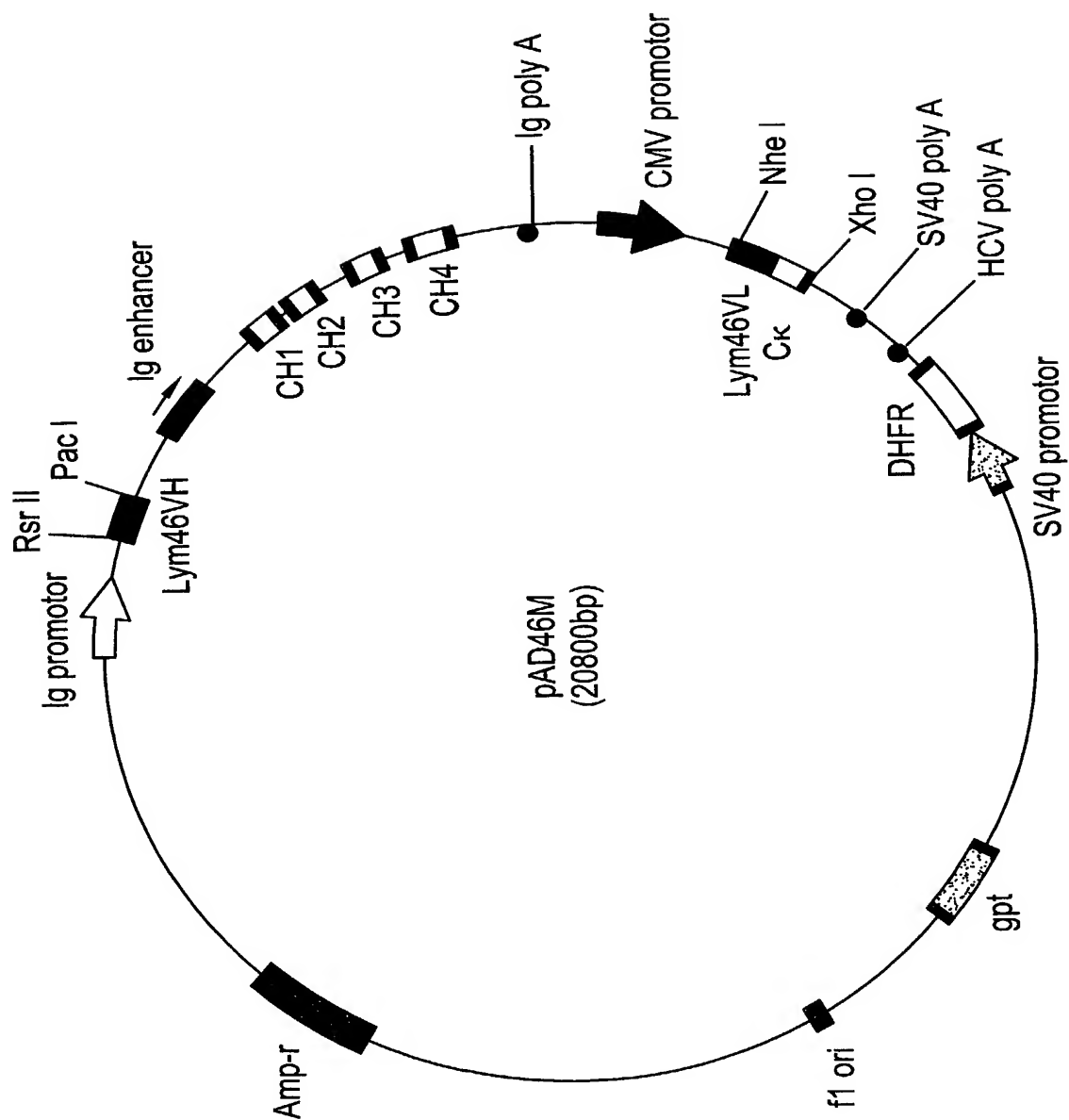
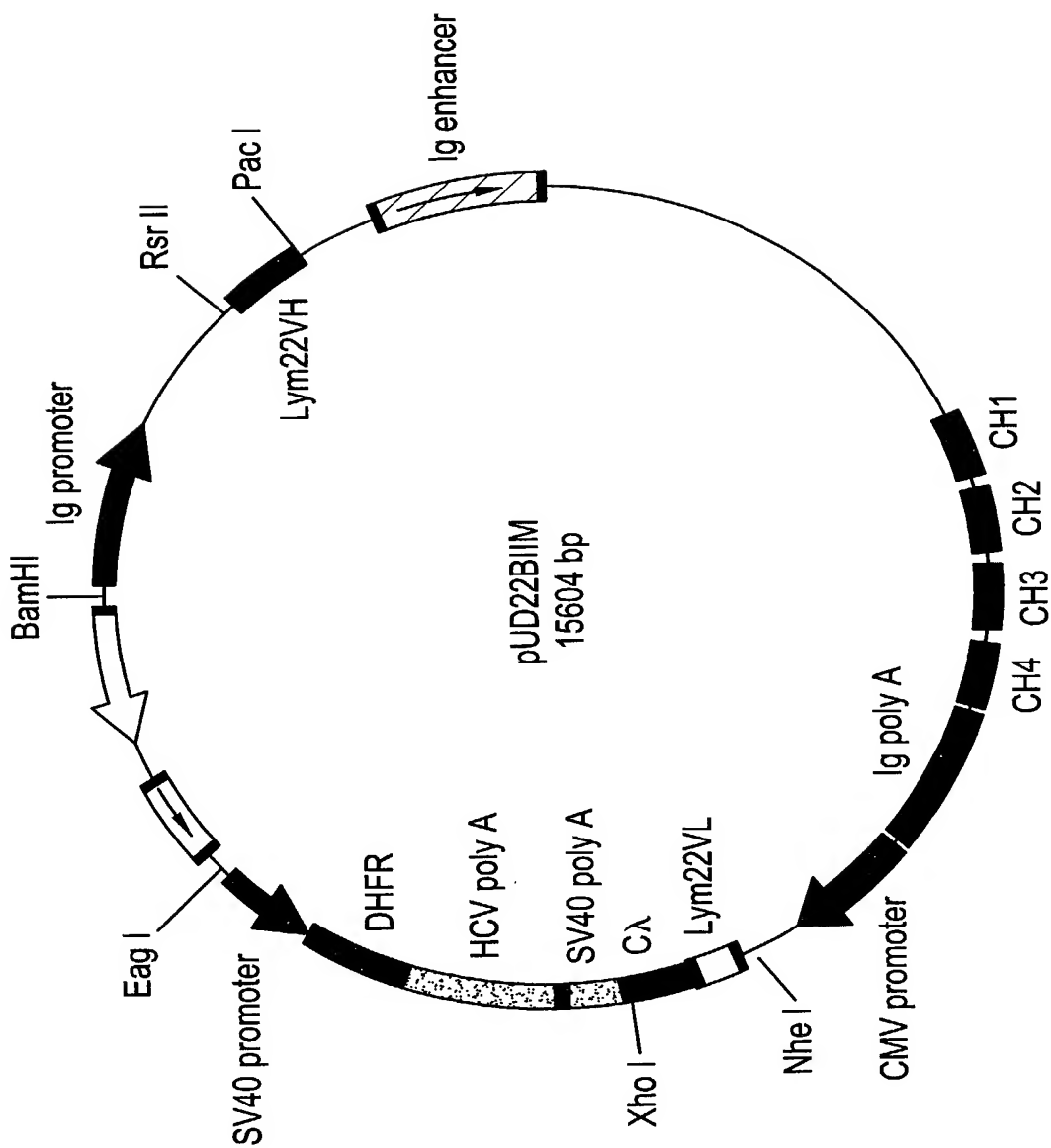




FIG. 74



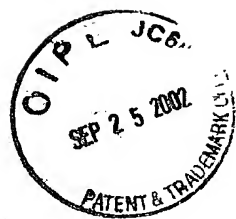
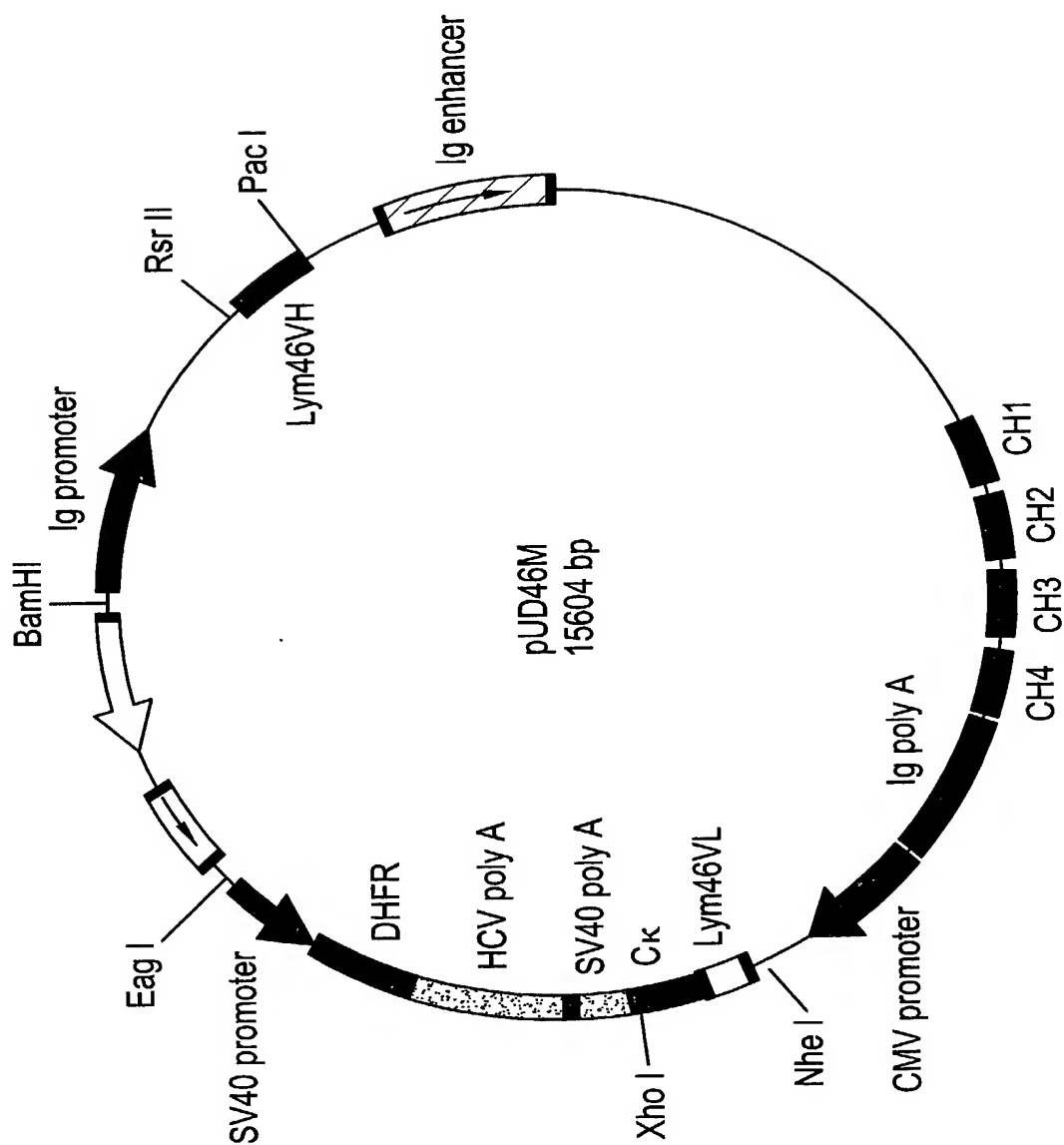


FIG. 75



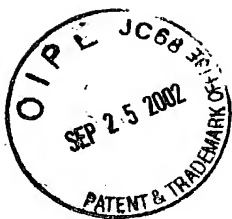


FIG. 76

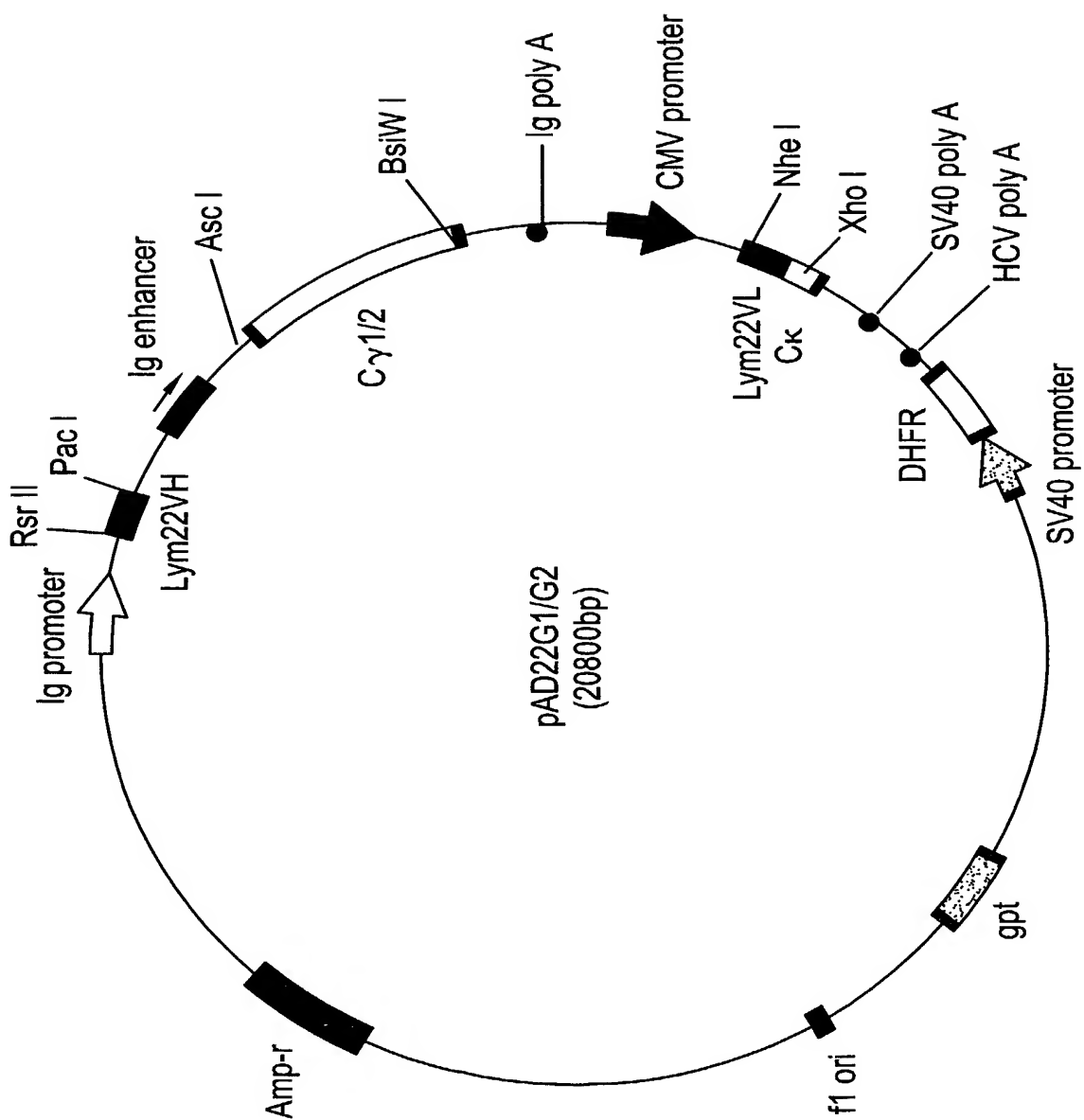




FIG. 77

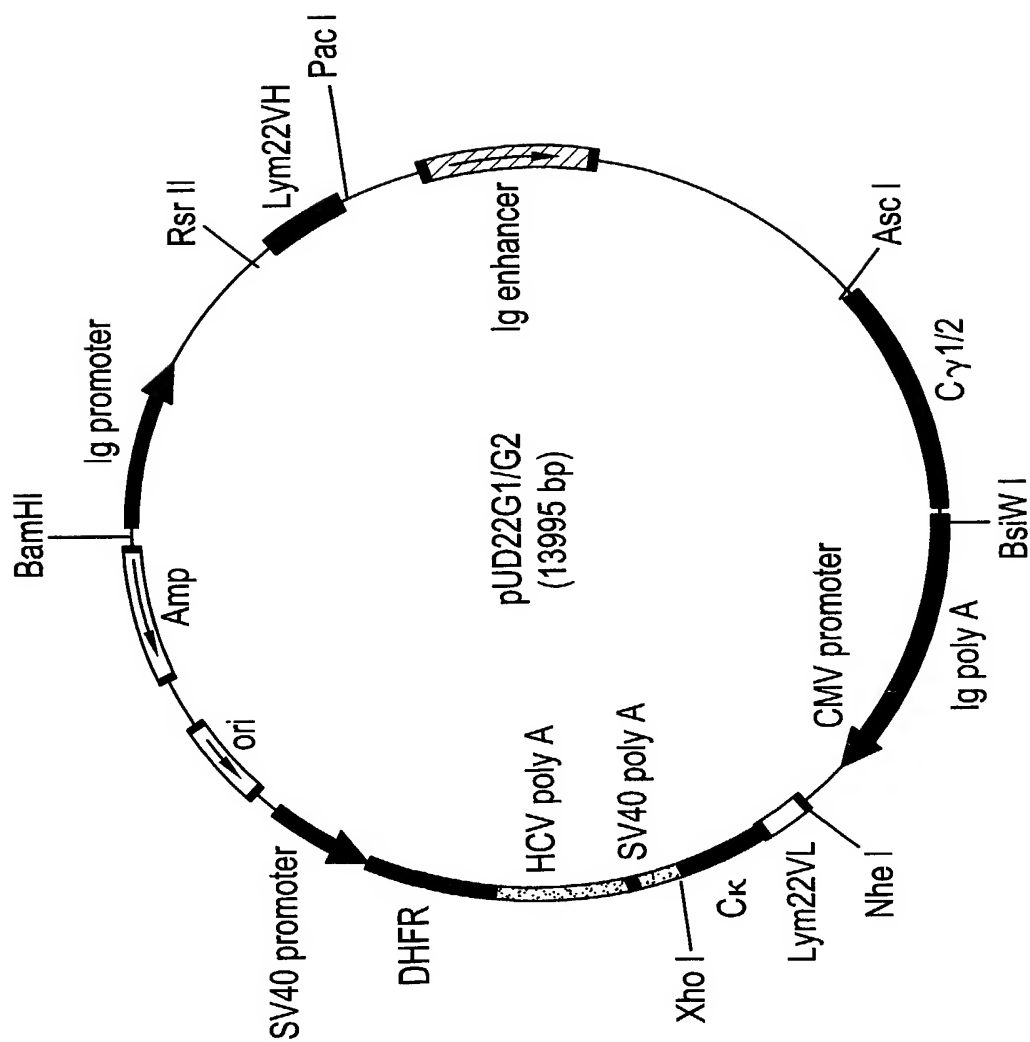
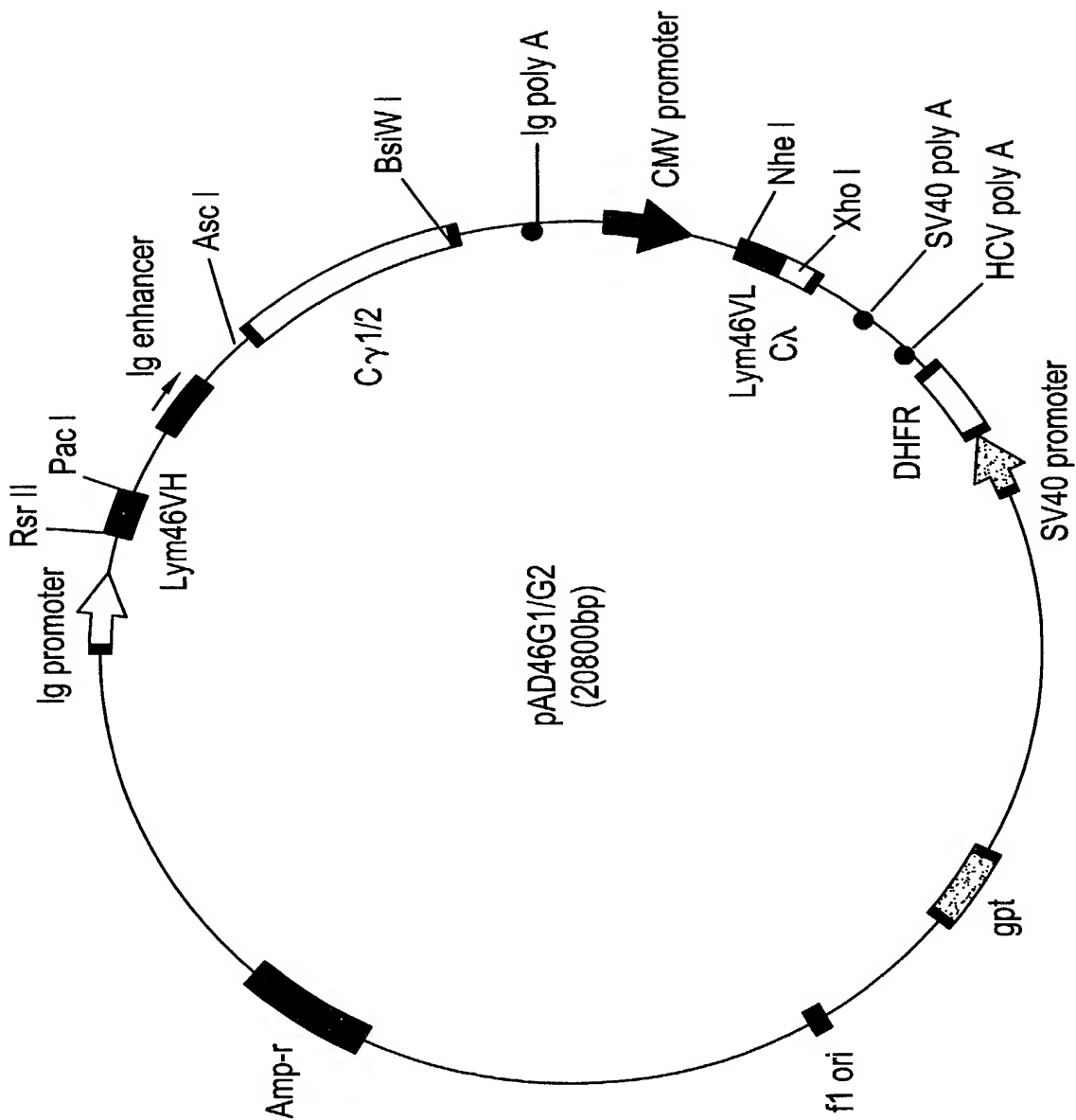




FIG. 78



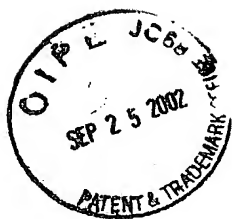


FIG. 79

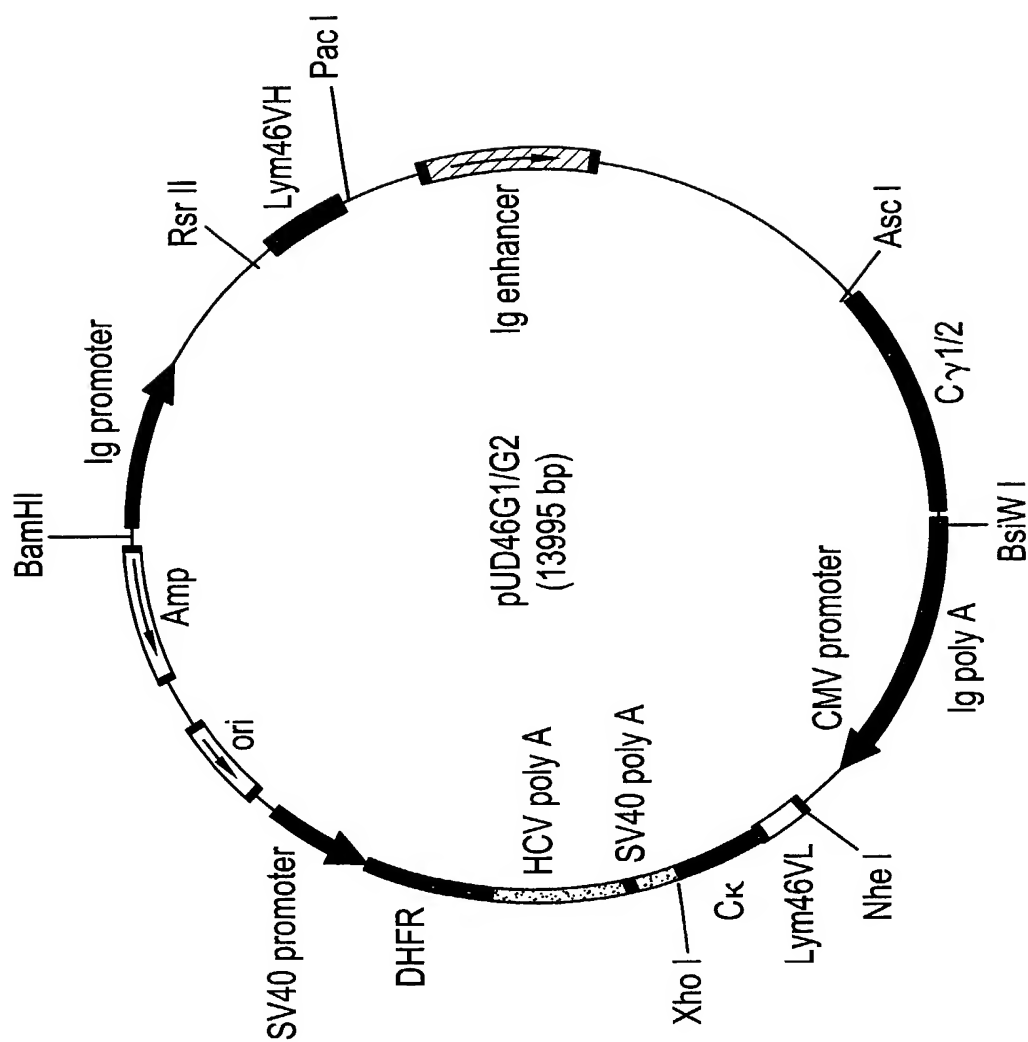




FIG. 80A

TMEV Infected SJL Mice
Treated at 21 Days Post Infection

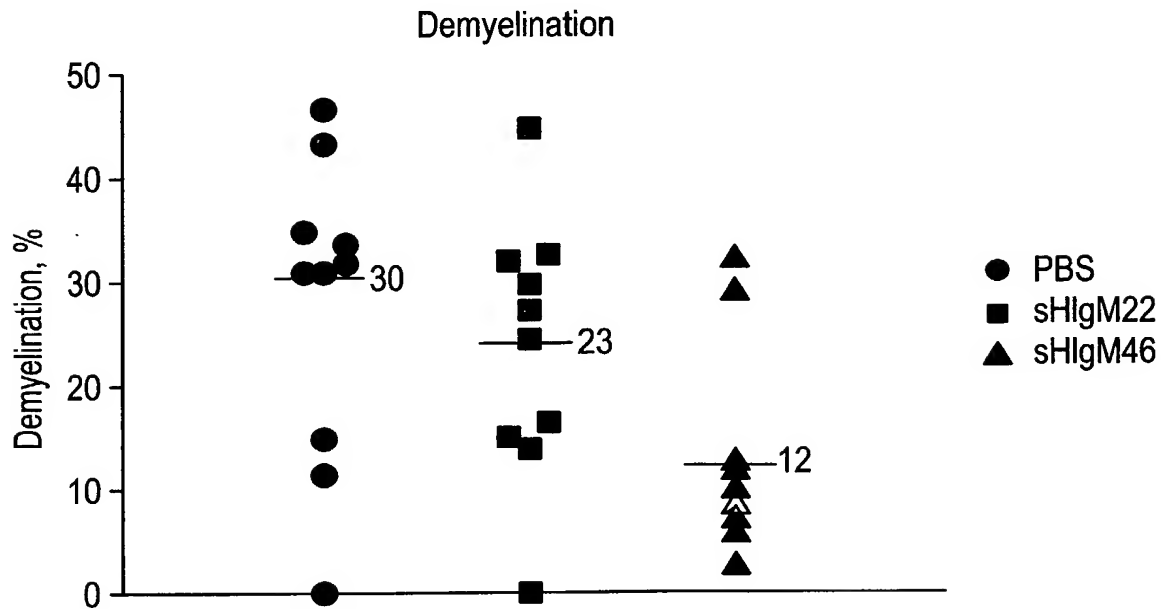
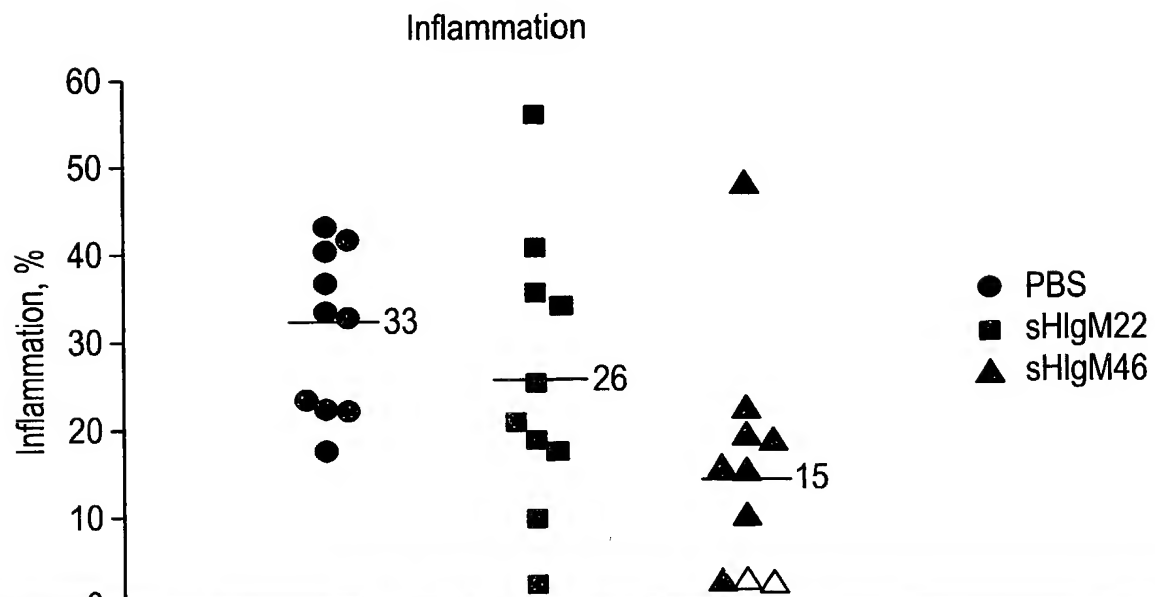
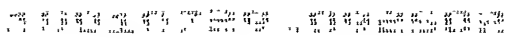


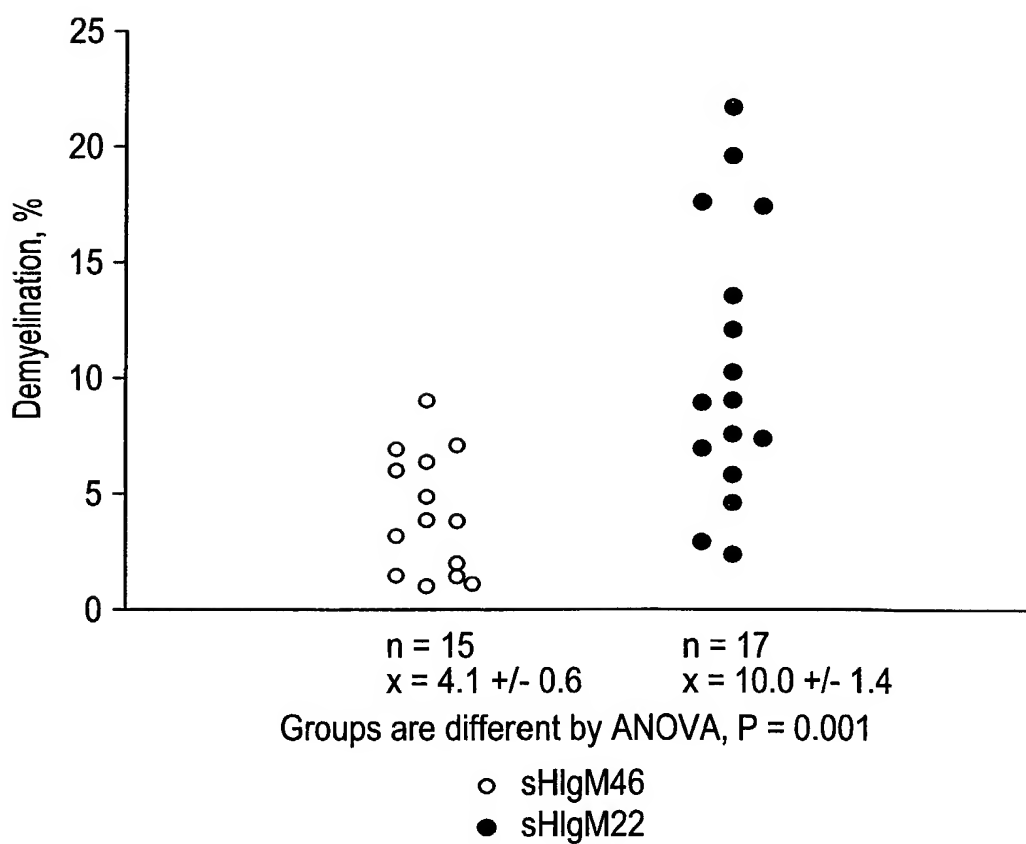
FIG. 80B

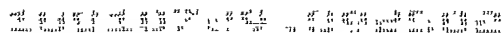
TMEV Infected SJL Mice
Treated at 21 Days Post Infection



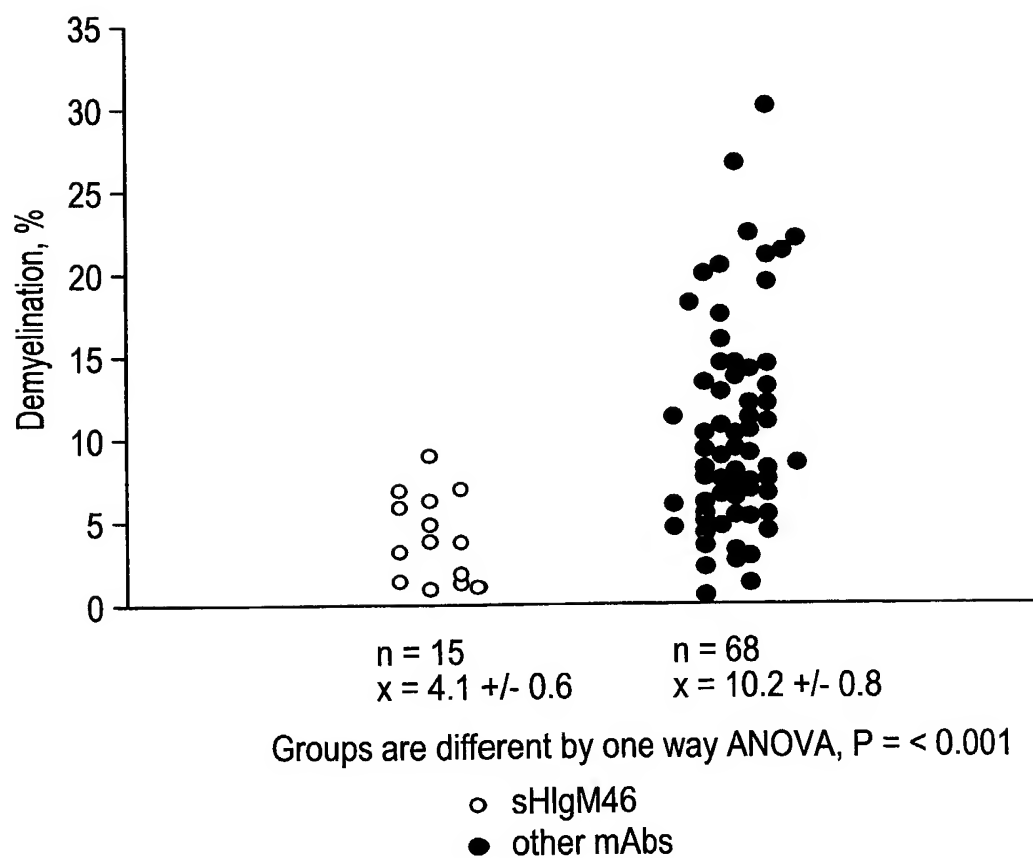


Chronically TMEV Infected SJL Mice Treated with sHlgM46 or sHlgM22





Chronically TMEV Infected SJL Mice Treated sHlgM46 vs All Other Antibodies



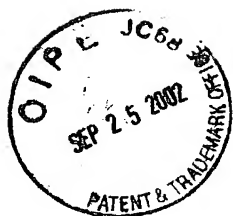


FIG. 83

^{45}Ca Internalization in Undif CG4 Cells

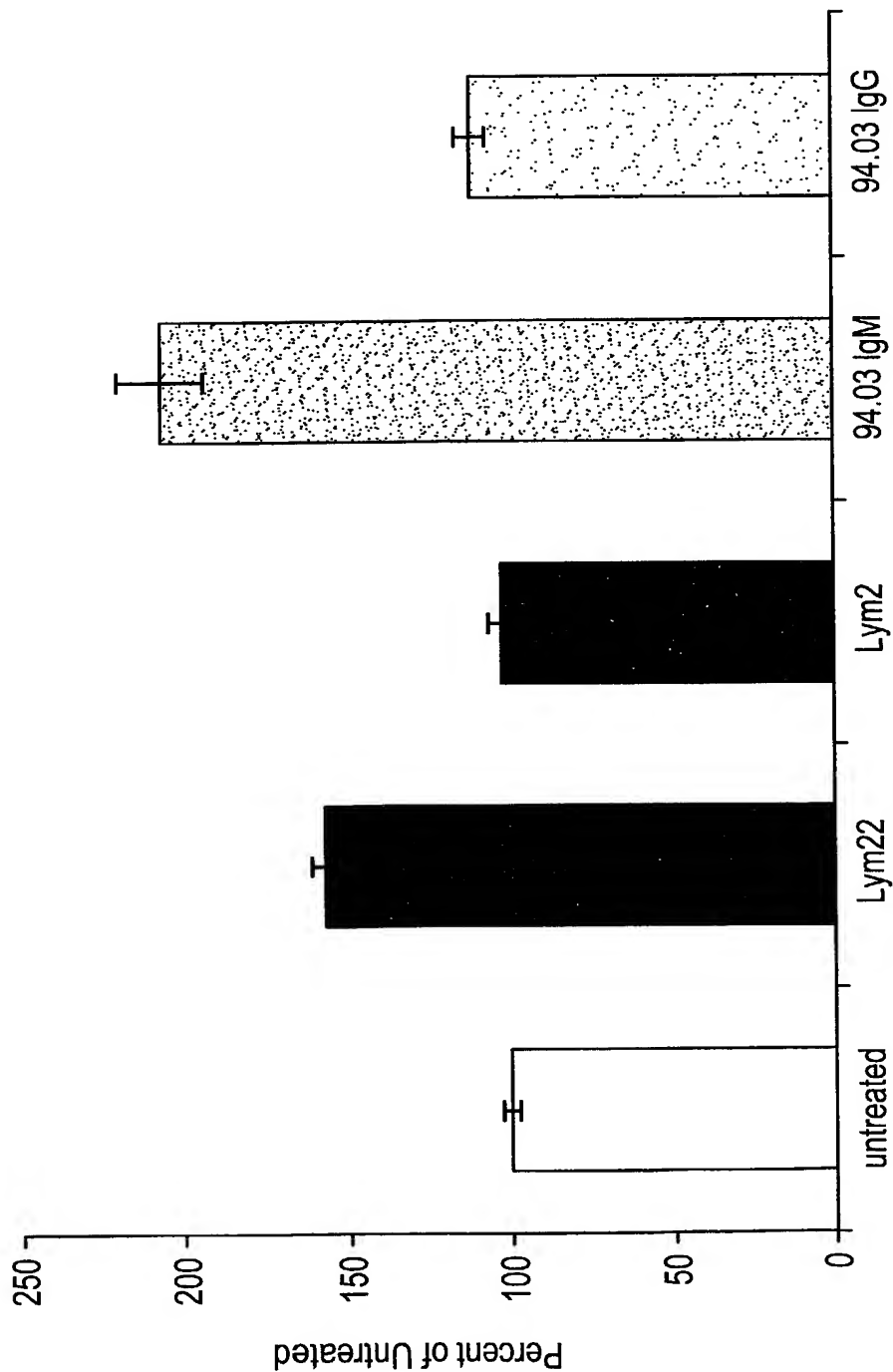
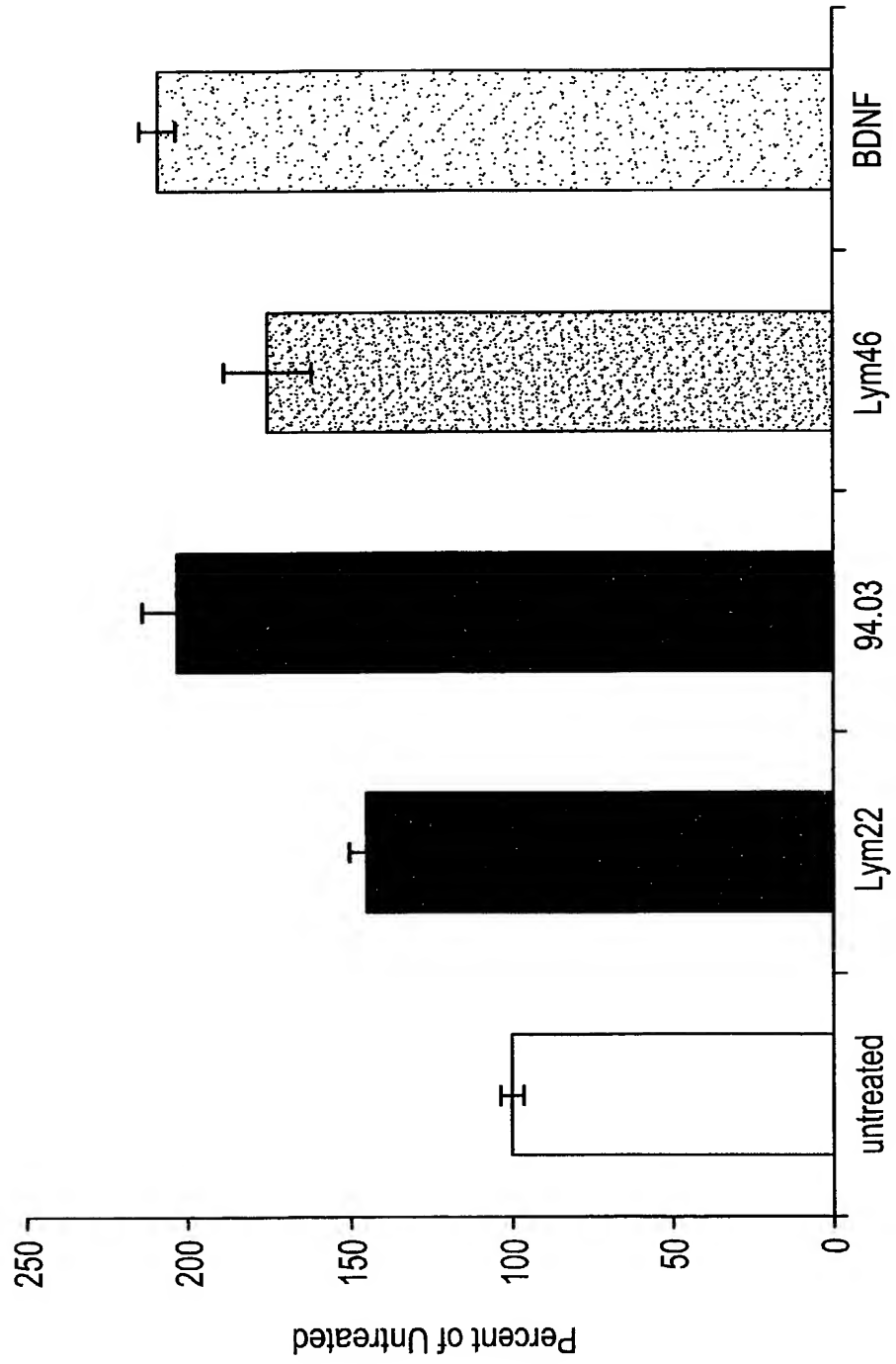




FIG. 84

⁴⁵Ca Internalization in CG4 Cells



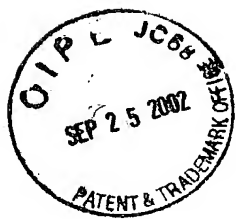
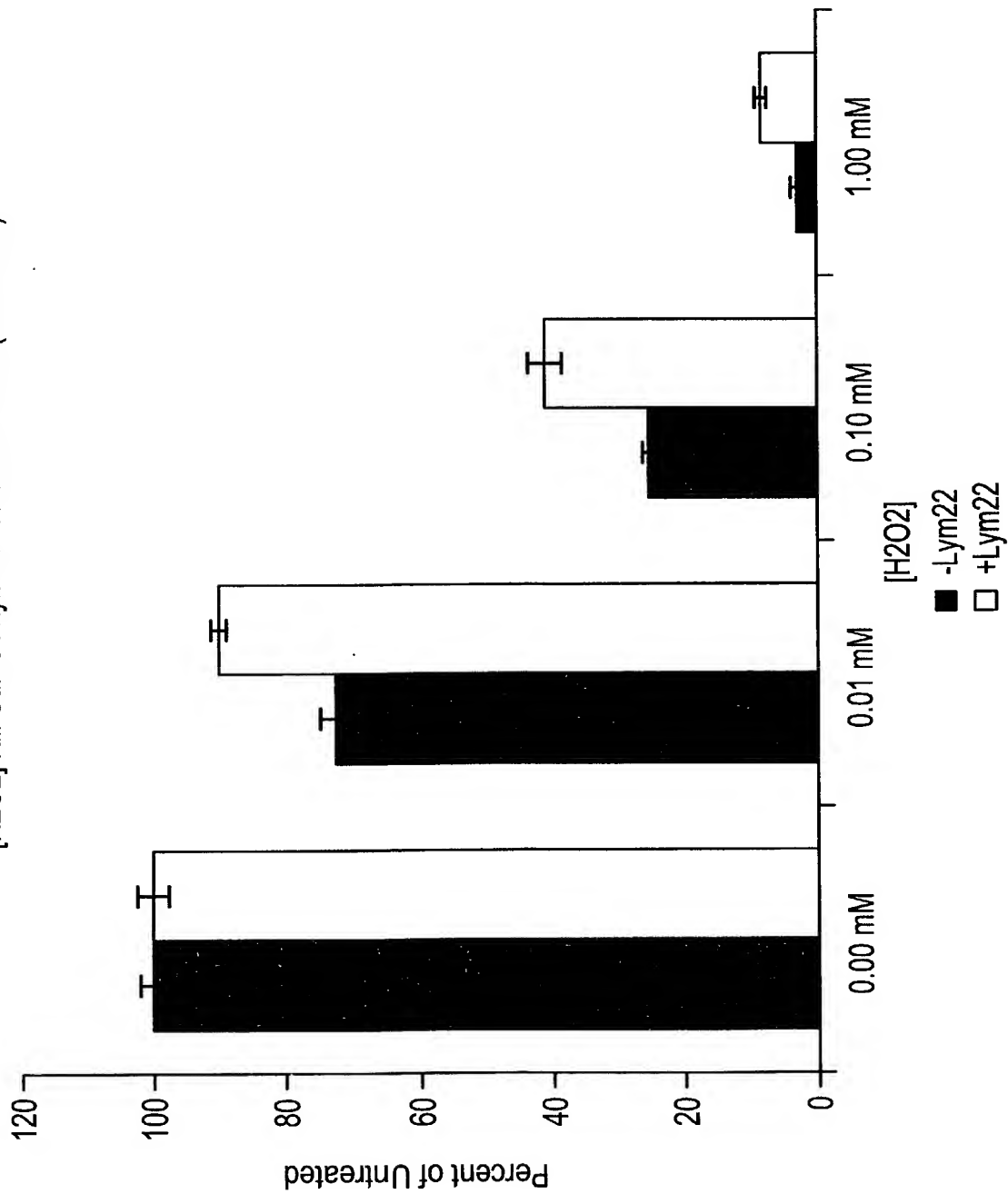


FIG. 85

[H₂O₂] Kill Curve : Lym22 Protective Effect (CG4 cells)





01/11/02 11:11:11 AM 11/11/02 11:11:11 AM 11/11/02 11:11:11 AM 11/11/02 11:11:11 AM 11/11/02 11:11:11 AM

FIG. 86A

MTT Assay: H₂O₂-induced cell death

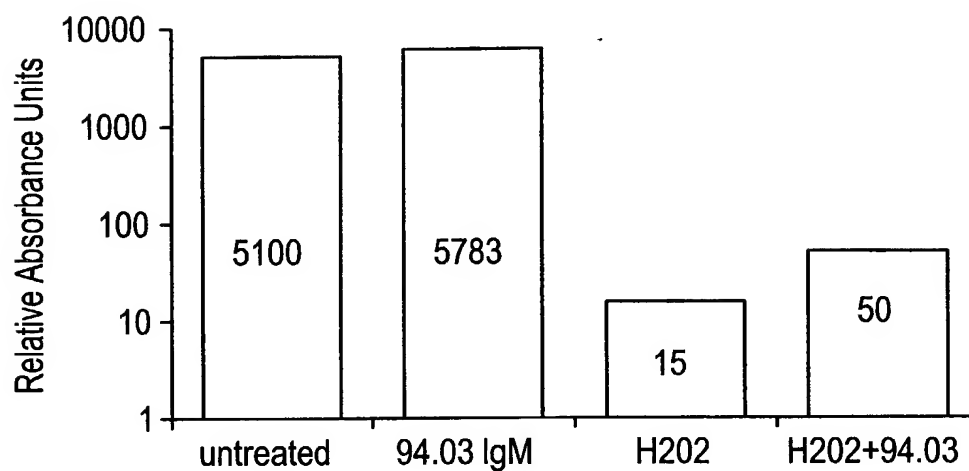


FIG. 86B

Cell Number: H₂O₂-induced cell death

